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A SKETCH

OF THE

BOTANY

OF

SOUTH-CAROLINA AND GEORGIA.

IN TWO VOLUMES.

BY STEPHEN ELLIOTT.

VOLUME I.

CHARLESTON, S. C.
PUBLISHED BY J. R. SCHENCK, No. 11, BROAD-STREET.

J. HOFF, PRINTER.

....

1821.

DISTRICT OF SOUTH CAROLINA, ss:

SEAL.

BE IT REMEMBERED, That on the twenty-first day of September, *Anno Domini* one thousand eight hundred and sixteen, and in the fortieth year of the Independence of the United States of America, STEPHEN ELLIOTT, of the said district deposited in this office the title of a book, the right whereof he claims as author and proprietor, in the words following, *to wit:*

"A Sketch of the Botany of South Carolina and Georgia,
by *Stephen Elliott*."

In conformity to the Act of the Congress of the United States, intitled "an Act for the encouragement of learning, by securing the copies of Maps, Charts, and Books, to the authors and proprietors of such copies during the times therein mentioned." And also to an Act, intitled "an Act, supplementary to an Act intitled an Act for the encouragement of learning, by securing the copies of Maps, Charts, and Books, to the authors and proprietors of such copies during the times therein mentioned, and extending the benefits thereof to the arts of designing and etching Historical and other Prints."

JAMES JERVEY,
Clerk of the District of South Carolina.

FROM a remembrance of his extensive and profound knowledge of the science of BOTANY, and of his unweared efforts to improve the Flora of North America; from a high respect for his many virtues, his liberal temper and exemplary character; and for the personal advantages derived from years of uninterrupted correspondence, this VOLUME is inscribed to the memory of the late Rev. HENRY MUHLENBERG of Lancaster, Pennsylvania.

ADVERTISEMENT.

THE present work contains the result of long observation on the plants of South-Carolina and Georgia. I know that it is still imperfect; and that an apology is due to the world for offering to its notice an imperfect performance. Circumstances, however, have rendered it probable that its publication, at this time, might encourage and promote the study of Botany in this country, while it has become doubtful, whether delay would enable me to make it more complete, or more accurate.

It has been a subject of regret in this country, for many years past, that persons wishing to commence or prosecute the study of botany, have been deterred from the pursuit for want of books. No work has yet appeared which exhibits a good view of the botany of the Southern States; and those which have been published, though valuable, and extending, each in its turn, the knowledge of our plants, contain generally very brief descriptions, and require constant reference to other books, not only expensive, but in a great part of the United States as yet unattainable.

I have therefore endeavored to adapt this sketch of our botany to the situation and wants of our country. To some species, under almost every genus, wherever the living plant, or specimens in a perfect state, have fallen under my inspection, I have given detailed descriptions. It has been my wish to enable persons with this work alone, to ascertain the known plants of South-Carolina and Georgia; and with this view much has been inserted, that under other circumstances might, and would have been omitted.

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I have subjoined, occasionally, to the description of the plants, observations on their medical and œconomical uses. For the medical observations I have been indebted to Dr. James Macbride, a gentleman who uniting great sagacity and talent, to extensive and accurate botanical knowledge, has made the medical properties of our plants a subject of careful investigation. His particular object has been to ascertain what plants really possess peculiar and valuable qualities; not merely to amass without discrimination, popular receipts. The results of his researches, I can offer with confidence to public notice.

A strong desire having been expressed by many of the subscribers to have some engravings annexed to this work, I have added a few, endeavouring to render them as useful as possible. Engravings merely ornamental, were not within the scope of this publication. The grasses having usually been considered by students as forming an obscure branch of botany, I have attempted to illustrate this department, and propose to give, on a reduced scale, drawings and dissections of the different genera of the Gramina and Cyperaceæ, so as to exhibit the habit and structure of each genus. I know not whether the benefit will at all be proportioned to the labour and anxiety these engravings have cost me, in a country where few facilities are offered to an author; but I must bestow unqualified praise on Mr. Wood, the engraver, for the zeal and the unwearied assiduity with which he has laboured to render them accurate, and worthy of public approbation. Their errors and imperfections must rest with me.

Of the books generally referred to, the following editions have been used.

Genera Plantarum. Lin. Schrebers edition.

Species Plantarum, Lin. Willdenow's edition—Berlin, 1797.

Clayton's Flora Virginica. 4to edition—Leyden, 1762.

Hortus Kewensis. 2d edition.

When other editions have been used they have been particularly noticed. Of most of the other books employed, there has been but one impression.

To the many friends who have aided me in this work, I owe great obligations; and at a future opportunity I will return them more specific acknowledgments. Every page, however, of this publication, will bear testimony to their zeal and kindness; for I have endeavoured scrupulously to record the aid they have afforded me, and to register their respective discoveries. I must still request, not only those who have already assisted me, but all the lovers of this science, to communicate any observations or discoveries, which may enable me to correct the errors I have committed, or to supply the omissions which may occur in the course of this publication. Specimens of rare or unknown plants will be at all times highly acceptable.

In a science like botany, depending on fact and observation, the progress must necessarily be slow and gradual. It is only by the co-operation and contributions of many individuals that it can ultimately attain any degree of perfection. The aid, therefore, which is necessary for all, I freely solicit; and the offerings made to science, I shall cheerfully accept.

A GLOSSARY,

CONTAINING AN EXPLANATION

OF THE

TERMS MOST COMMONLY USED IN BOTANY.

Abortive flower (flos abortiens) falling off without producing fruit.

Abrupt.—Applied only to pinnate leaves when they have neither leaflet (foliolum) nor tendril or clasper at the end.

Acerose leaf. Linear and permanent as in the pine. (Acerosum.)

Acicular. Shaped like a needle. (Acicularis.)

Acuminate. Sharp pointed. (Acuminatus.)

Acinus. See Berry.

Acute; sharp. Applied to leaves and to the perianth. (Acutus.)

Aggregate flowers. Those seated on the same receptacle, or inclosed in the same calyx. They are divided into umbelled, cymose, compound, aggregate properly so called, where the flowers are seated with peduncles on a dilated receptacle, amentaceous and glumose. (Flores aggregati.)

Alternately-pinnate leaf: When the leaflets (foliola) are arranged *alternately* on each side of the common footstalk or petiole (Alternatim pinnata.)

Alveolate receptacle: Divided into open cells like an honey-comb, with a seed lodged in each. (Alveolatum.)

Ament. Flowers collected on chaffy scales and arranged on a thread or slender stalk; as in the Oak, Walnut and Willow. (Amentum.)

Amplexicaule leaf: Embracing, clasping or surrounding the stem by its base. (Folium amplexicaule.)

Ancipital stem: Two edged. Flatted or rather sharp with two opposite angles. (Caulis anceps.)

Androgynous plant: Bearing on the same root flowers with stamens, and flowers with pistils, without any flowers having both stamens and pistils; such flowers are termed androgynous, also. (Androgyna.)

Anther. The sack which contains the farina or pollen. (Anthera.)

Apetalous flower: A flower without petals. (Flos Apetalus.)

Appressed, pressed or squeezed close. (Appressus.)

Arborescent stem, becoming woody. (Arborescens.)

Aril. The outer coat of a seed enclosing it partially or falling off spontaneously. (Arillus.)

Auriculate leaf: A cordate or heart-shaped leaf, having the corners prominent and rounded. (Folium auriculatum.)

Awn. A slender sharp process issuing from the glume or chaff in grasses. (Arista.)

Axilla. The angle formed by a branch with the stem, or by a leaf with the branch.

Axillary, growing out of the angle thus formed. (Axillaris.)

Barb. A straight process armed with teeth pointing backwards. (Glochis.)

Barren flower. Not capable of bearing seed; having stamens, but no pistil or pistils, and vice versa. (Sterilis.)

Beaked. Terminated by a process shaped like the beak of a bird, applied to fruits. (Rostratus.)

Beard. A tuft of stiff hairs terminating leaves—in pubescence, parallel hairs. (Barba.)

Bell-shaped Corolla. Swelling out, without forming a tube. (Campanulata.)

Berry. A juicy or pulpy pericarp or fruit without valves containing naked seeds, as the whortle berry. (Bacca.) Compound Berry may be applied to Mulberry, Raspberry, Black-berry and each of the component parts is an *acinus.*

Biennial root. Enduring two years and then perishing. (Biennis.)

Bifarious leaves. Coming out only on opposite sides of a branch (Folia bifaria.)

Bifid, two cleft, or cloven. (Bifidus.)

Bigeminate leaf. A decompound leaf, having a dichotomous or forked petiole, with several leaflets at the end of each division. (Folium Bigeminum.)

Bijugous leaf. A pinnate leaf having two pairs of leaflets. (Folium bijugum.)

Bilabiate or two lipped Corolla. (Corolla bilabiata.)

Bilamellate stigma. The form of a flattened sphere longitudinally bifid. (Stigma bilamellatum.)

Bilobate leaf. Divided into two lobes. (Bilobatum.)

Bipinnate leaf. When the common petiole has pinnate leaves on each side of it. (Bipinnatum.)

Bipinnatifid leaf. When the common petiole has pinnatifid leaves on each side of it. (Bipinnatifidum.)

Biternate—See Ternate.

Bivalved, or two valved, pericarp. In which the covering or seed case splits into two parts.

Border or Brim. The upper spreading part of a monopetalous or one petalled corolla. (Limbus.)

Brachiate stalk or stem. Having branches stretched out like arms, in pairs, decussated, all nearly horizontal. (Caulis brachiatus.)

Bractea or Floral leaf. A leaf different from other leaves in shape and colour, and often so near the corolla as to be mistaken for the calyx. It is often seated on the peduncle.

Bracteated. Furnished with bracteas. (Bracteatus.)

Branched stalk. Furnished with lateral divisions. Opposed to simple. (Caulis ramosus.)

Branch-leaves. Leaves growing on the branches, sometimes differing from those of the stalk. (Folia ramea.)

Bright. Shining as it were illuminated. (Lucidus.)

Bristle. A species of pubescence in form of a stiff roundish hair. (Seta.)

Bulb.—The winter receptacle of a plant, placed immediately on the root. Bulbs are either solid, scaly, coated or jointed. (Bulbus.)

Bullate leaf. When the substance of the leaf rises high above the veins so as to appear like blisters. It is only the wrinkled leaf in the highest degree. (Bullatum.)

Caducous. Falling off quickly. Applied to the corolla calyx, leaf, stipule and bractea. (Caducus.)

Calyculate calyx. A calyx having a calycle or little cup at the base on the outside as in the common garden pink. (Calyculatus.)

Campanulate, corolla: Swelling out without forming a tube, bell-shaped. (Campanulata.)

Calyx.—The outer covering of the flower.

Canescent—See Hoary.

Capillary. Long and fine like a hair. (Capillaris and Capillaceus.)

Capitate. Growing in a head. (Capitatus.)

Capsule. A membranaceous hollow pericarp or seed-vessel opening in some determinate manner. (Capsula.)

Carinate; keeled,

Cell.—The hollow part of a pericarp or capsule, in which the seed are lodged. (Loculamentum.)

Cernuous. See Drooping.

Cespitose plant. Having many stems from the same root. (Cespitosa.)

Chaff. A dry membranaceous body interposed between florets in some plants of the class syngenesia. (Palea.)

Chaffy receptacle. In which florets are divided by interposed chaff or scales. (Receptaculum paleaceum.)

Channelled. Hollowed above with a deep longitudinal channel or groove and convex underneath. (Canaliculatus.)

Chinked. Applied to the outer bark of some trees. (Rimosus.)

Ciliate leaf. The edge guarded by parallel bristles resembling eyelashes. (Folium ciliatum.)

Circumscissed capsule. Opening transversely or horizontally like a snuff-box. (Capsula circumscissa.)

Clavate, clubshaped. Growing gradually thicker towards the top. (Clavatus.)

Claw.—The lower narrow part of a petal in a polypetalous corolla, by which it is fixed to the receptacle. (Unguis.)

Clawed petal. A petal with a claw. (Petalum unguiculatum.)

Cleft leaf. Divided by linear sinuses with straight margins, and according to the number of such divisions, a leaf is called bifid, trifid, &c. or two cleft, three cleft, &c. (Folium fissum.)

Coccum. A fruit of a particular structure, having several cells with a single seed in each. Thus euphorbia has a tricoccous fruit or three grained.

Coloured leaf. Of any other colour than green. (Coloratus.)

Columella. The central pillar of a capsule having the seeds affixed ed to it all round.

Columnar. Like the shaft of a column, without angles, round. (Columnaris.)

Complicate. Folded together. (Complicatus.)

Compound flower. See Flower.

Compressed or flattened. Applied to a stem which has two opposite sides flat. (Compressus.)

Concave leaf. When the edge is elevated above the rest of the leaf, forming a segment of the periphery of a circle. (Concavum.)

Conglomerate flowers or peduncles. When a branching peduncle bears flowers on very short pedicels closely heaped together without order. (Conglomeratus.)

Conjugate leaf. A pinnate leaf which has only one pair of leaflets. (Folium conjugatum.)

Conjugate Raceme: Having two racemes only, united by a common peduncle.

Connate leaf When two opposite leaves are so united at their bases as to have the appearance of one leaf. (Connatum.)

Connivent or converging corolla. When the tips of the petals meet so as to close the flower. (Connivens.)

Contorted Corolla. When the edge of one petal lies over the next obliquely. (Contorta.)

Contracted panicle. Close and narrow, so as nearly to resemble a spike. (Contracta.)

Convex leaf. Opposed to a concave leaf. (Convexum.)

Cordate or heart-shaped leaves. (Folium cordatum.)

Cordate-oblong. A heart-shaped leaf lengthened out. (Cordato-oblongum.)

Cordate-Lanceolate, Cordate-Sagittate, &c. partaking of the form of both leaves.

Coriaceous. Stiff like leather or parchment.

Corolla. The second of the seven parts of fructification; or, the inner covering of the flower, formed, according to Linnæus, of the *liber* or inner bark of the plant.

It may commonly be distinguished from the perianth, by the fineness of its texture and the gayness of its colours: whereas the perianth is usually rougher and thicker, and green. But there are many exceptions; the perianth in *Bartsia* is coloured—the corolla in *Daphne Laureola* is green.—Linnæus makes the distinction between the *corolla* and *perianth* to consist, in the former having its segments or petals alternate with the stamens; whereas the latter has its parts or leaflets opposite to them. This appears from the inspection of the classes *Tetrandria* and *Pentandria*, in flowers which have both parts; and of *Chenopodium*, *Urtica*, *Parietaria*, which have no Corolla. See *Philos. Bot.* page 57, § 90.

Adanson however observes, that in the Liliaceous plants, what is called a corolla is in reality a perianth, according to the principles of Linnæus. That part which is named corolla of Rhamnus, in *Lin. Gen.* is called calyx in *Syst. Veget.*—and on the contrary, the calyx or perianth of Polygonum in *Lin. Gen.* is the corolla in *Syst. Veg.*

To get rid of the difficulty, which sometimes occurs in distinguishing the Corolla from the calyx, De Necker has cut the knot, and called them by one name, *Perigynandra;* which signifies the envellope, cover or wrapper of the stamens and pistils; this he distinguishes into inner and outer, when there are two—then the first is the corolla, and the second the perianth.

Corymb. A mode of flowering in which the peduncles or foot-stalks of the flowers take their rise from different heights; but the lower ones being longer, they all form nearly an even surface at top. (Corymbus.)

Creeping root. Extending horizontally, and putting forth fibres and producing young plants at a distance from the parent plant. (Radix repens.)

Crenate, scolloped, or notched leaf. Having the edge cut with circular incisures not inclining towards either extremity. (Folium crenatum.)

Crested. Having an appendage like a crest or tuft. (Cristatus.)

Cucullate Spathe or leaf. Rolled up, wide at top and open with a pendent process. (Spatha cucullata.)

Culm. The stalk or stem of grasses, usually jointed and hollow. (Culmus.)

Cuspidate leaf. Terminating in a sharp bristle-like point. (Cuspidatum.)

Cyme. A mode of flowering in which the peduncles take their rise from the same centre; but the subdivisions are irregular. (Cyma.)

Deciduous leaf. Falling off in autumn. Calyx or perianth: falling after the corolla opens. (Deciduum.)

Declining stem or leaf. Bent downwards forming an arch or curve. (Declinatus.)

Decompound leaf. When the primary petiole is so divided that each part forms a compound leaf which is either bigeminate, biternate or bipinnate. (Folium decompositum.)—

Decumbent flower. Having the stamens and pistils bending to the lower side of it.

——Stalk: lying on the ground with the base higher than the other parts. (Decumbens.)

Decurrent leaf. A sessile leaf having its edges continued downwards along the stem. (Folium decurrens.)

Decursively pinnate leaf. Having the leaflets decurrent along the petiole. (Folium decursivè pinnatum.)

Decussated leaves and branches. Growing in pairs which alternately cross each other. (Decussatus.)

Deltoid leaf. Has the general appearance of a triangle or the letter Delta. (Deltoideum.)

Dense panicle. Having a great number of flowers, crowded in a panicle. (Panicula densa.)

Dentate or toothed leaf: Having projecting, horizontal teeth of its own substance. (Folium dentatum.)

Denticulate leaf: Having small teeth. (Denticulatum.)

Dichotomous stem. Continually and regularly dividing by pairs from top to bottom. (Dichotomus.)

Dicoccous. See Coccum.

Didymous, double or twin. When two lobes are nearly distinct but exactly similar to each other—generally applied to anthers.

Diffused stem. Having spreading branches. (Caulis diffusus.)

Digitate leaf. When a simple petiole connects several distinct leaflets at the end of it. (Folium digitatum.)

Dioecious plant. Having fertile flowers on one individual and barren on another. (Planta dioica.)

Dissilient pericarp. A bursting or elastic seed-vessel or fruit: (Dissiliens.)

Distichous. Two rowed; flowers or leaves on opposite sides of a peduncle or stem.

Divaricate panicle; when the pedicels form an obtuse angle with the main peduncle. (Panicula divaricata.)

Diverging branches: Making a right angle with the stem. (Rami divergentes.)

Dorsal awn. Fixed to the back or outer side of the glume. (Arista dorsalis.)

Dotted leaf. Covered with hollow dots. (Folium punctatum.)

Downy. See Tomentose.

Drooping. The top or end pointing to the ground. (Cernuus.)

Drupe. A pulpy pericarp or fruit without valves, containing a nut or kernel. (Drupa.)

Echinate pericarp or seed-vessel. Beset with prickles like a hedgehog. (Echinatum.)

Elliptic leaf. Lanceolate but with the breadth of an ovate leaf, more oblong than the oval leaf. (Folium ellipticum.)

Emarginate. Notched at the end. (Emarginatus.)

Ensiform leaf. Sword shaped; two edged, tapering from the base to the point. (Folium ensiforme.)

Entire leaf. Undivided without any sinus or opening on the edge. (Folium integrum.)

Equal. A calyx or corolla is said to be equal when the parts are of the same size and figure. (Æqualis.)

Explanate. Spread out, flat. (Explanatus.)

Exsert-stamens. Protruded Stamens or anthers are those appearing above the corolla. (Exsertus.)

Fascicle. A mode of flowering in which several upright, parallel, fastigiate, approximating flowers are collected together. (Fasciculus.)

Fascicled leaves. Growing in bundles or bunches from the same point. Folia fasciculata.)

Fastigiate stem. Having branches of an equal height.

——Peduncles. Elevating flowers in branches so that they are all of an equal height. (Fastigiatus.)

Faux or mouth. The opening of the tube of the Corolla.

Fimbriate—fringed. Generally applied to the corolla: differing from ciliate, in which the margin is guarded by bristles distinct from the substance of the leaf; in a fimbriate corolla the margin is fringed by segments of its own substance.

Feathery. See Plumose.

Filament. The thread-like part of the stamen supporting the anther, (Filamentum.)

Fistulous stem. Hollow. (Fistulosus.)

Fleshy leaf. Full of pulp within. (Carnosum.)

Flexuose stem. Changing its direction in a curve from joint to joint or bud to bud, &c. (Flexuosus.)

Floret. The separate or partial little flower of compound flowers. (Flosculus.)

Flower. When complete, consists of calyx, corolla, stamen, and pistil; but the essntial parts are anther and stigma. (Flos.)

Flower compound. (Flos compositus) contains several florets, inclosed in a common perianth, and on a common receptacle with the anthers forming a tube.

Follicle. A pericarp or seed-vessel of one valve, opening on one side longitudinally. (Folliculus.)

Frutescent. See Shrubby.

Furrowed stem. Marked with deep broad channels longitudinally. (Sulcatus.)

Geniculate or having knees. Applied to a stem, peduncle or awn, forming an obtuse angle at the joints, as when the knee is a little bent. The deviations are angular, whereas in the flexuose stem they are curved. (Geniculatus.)

Germen, ovarium or seed-bud. The rudiment of the fruit yet in embryo; the base of the pistil. Germen superior when included within the corolla; but when placed below the corolla, inferior. (Germen.)

Glandular leaf is that which has glands either on the surface, or on the serratures. (Glandulosum.)

Glaucous—pale green; sea green. (Folium glaucum.)

Glomerate spike. Having the component spikes variously heaped together.

——Panicle. The flowers growing close together in a globular form. (Glomeratus.)

Glume. The calyx or corolla of grasses, formed of valves embracing the flower and seed. (Gluma.)

Habit of Plants. Their general external appearance and mode of growth. (Habitus)

Halved head. Hemispherical: round on one side and flat on the other: a spathe is halved when it invests the fructification on one side only. (Dimidiatus.)

Hanging leaf. Pointing directly to the ground. (Dependens.)

Hastate leaf. Resembling the head of a halbert. Triangular, hollowed at the base and on the sides, with angles spreading. (Folium hastatum.)

Head. A mode of flowering in which several flowers form a kind of ball. (Capitulum.)

Heart-shaped leaf. See Cordate.

Hirsute. Rough with hair. Having more bristles or hairs than Hispid but less stiff. (Hirsutus.)

Hispid. Beset with stiff bristles. (Hispidus.)

Hoary leaf. Covered with a white pubescence. (Incanum.)

Horizontal leaf. Making a right angle with the stem. (Horizontale.)

Hypocrateriform corolla. Monopetalous, with the border spreading out horizontally or flat from the tube: Salver-shaped. (Hypocrateriformis.)

Imbricate—tiled, laying over each other like the shingles or tiles, on the roof of a house.

Imperfect flower. Destitute of either anther or stigma. May this not be synonymous with Barren flower. (Flos imperfectus.)

Incised leaf. Having the sections or divisions usually determinate in their number; or at least more so than in the laciniate leaf. (Folium incisum.)

Including calyx. Shutting up and concealing the corolla. (Includens.)

Incomplete flower. Destitute of either calyx or corolla. (Flos incompletus.)

Incrassate peduncle. Thickening or becoming thicker towards the flower. (Incrassatus.)

Incumbent. Leaning upon or resting against. (Incumbens.)

Inferior perianth. Inclosing the germen; or, having the germen above the receptacle—

——Germ. Placed below the perianth. An inferior perianth implies a superior germ. (Inferum.)

Inflected. Bent inwards, at the end, towards the stem. (Inflexus.)

Inflorescence. Mode of bearing flowers. (Inflorescentia.)

Internode. The space between knot and knot or joint and joint. (Internodium.)

Interrupted spike. Divided by intervals of smaller flowers or by intervals destitute of smaller flowers. (Spica interrupta.)

Interruptedly-pinnate leaf. Having smaller leaflets between each pair of larger ones. (Interruptè-pinnatum.)

Involucrum A calyx remote from the flower; sometimes placed beneath a single flower, but often including many flowers with their proper calyxes,—(Involucrum.)

Involucell. A small involucrum. (Involucellum.)

Keel. The lower petal of a papilionaceous flower, inclosing the stamens and pistil: usually shaped like a boat. (Carina.)

Kidney-shaped leaf. Roundish, and hollow at the base without angles. (Reniforme.)

Knot. A protuberant joint in the stem of some plants particularly grasses and corn. (Nodus,)

Lacinia; a segment. Any part into which the border of a monopetalous corolla is cut. It is applied also to a monophyllous or single leafed calyx. (Monophyllum.)

Laciniate leaf. Irregularly cut or divided. (Laciniatum.)

Lacunose or pitted leaf. The surface depressed between the veins. Opposed to wrinkled. (Lacunosum.)

Lanceolate leaf. Oblong and gradually tapering towards each extremity. Lance-shaped. (Lanceolatum.)—

Lanceolate-ovate leaf. Partaking of both forms, but inclining more to the latter. In these compound words the latter is always supposed most characteristic.)

Leaflets. The small leaves in a compound leaf. (Foliola.)

Legumen. A seed-vessel of two valves, in which the seeds are fixed along one suture only. Pea-pod or shell—

Ligulate flower. A species of compound flower in which the florets have their diminutive corollas (corollules or corollets) flat, spreading out towards the end, with the base only tubular (Flos ligulatus.)

Linear-leaf. Of the same breadth throughout, except sometimes at one or both ends. (Lineare.)

Lineate leaf. The surface slightly marked longitudinally with depressed parallel lines. (Lineatum.)

Lip. See Ringent.

Lobe. The part into which some simple leaves are divided—(Lobus.)

SKETCH OF THE BOTANY

of

South-Carolina and Georgia.

CLASS I.

MONANDRIA MONOGYNIA.

1. CANNA.
2. THALIA.
3. SALICORNIA.

DIGYNIA.

4. CALLITRICHE.

CANNA. Gen. pl. 1.

Anthera simplex, filamenti margini adnata. *Stylus* crassus, claviformis. *Stigma* obtusum. *Capsula* 3-locularis *Semina* globosa, numerosa.	*Anther* simple, attached to the margin of the filament. *Style* thick, club-shaped. *Stigma* obtuse. *Capsule* 3 celled. *Seed* globose, numerous.

1. Flaccida.

C. corollæ limbo interiore trifido; laciniis flaccidis.	Interior limb of the corolla three cleft; segments flaccid.

Roscoe, Trans. Linn. Soc. 8. p. 339. Pursh, flor. Amer. 2. p. 585.
Canna glauca, *var. b. flaccida*, Sp. pl. 1. p. 4.
C. angustifolia ? Walt. fl. Car. p. 59.

Root perennial, creeping. *Stem* herbaceous, terete, 2—3 feet high, very smooth. *Leaves* alternate, large, lanceolate, very acute, membranaceous, entire, smooth, terminating at the base in a sheath generally longer than the joints of the stem; upper leaves only a sheath. *Flowers* few in a terminal spike. *Bractea* an obtuse, ovate scale, surrounding the base of the germ. *Calyx* three-leaved, superior; leaves lanceolate, acute, appressed to the tube of the corolla. *Corolla* one-petalled, yellow; tube cylindrical, thrice as long as the calyx; margin sixparted; the three exterior segments lanceolate, acute, equal, reflexed; two inner ones obovate, reflexed, undulate, flaccid; the interior petal, very large, nearly round, margin reflexed, undulate, flacid. *Nectary*, resembling a petal, 2 parted; outer segment resembling the inner segments of the corolla: inner segment resembling the interior segment of the corolla, but narrower, erect, undulate. *Filament* 0. *Anther* oblong, whitish, furrowed, attached to the interior segment of the nectary, which performs the functions of a filament. *Germ* round, scabrous. *Style* sword shaped, dilated near the summit, inserted into the tube of the corolla. *Stigma* linear, attached to the margin of the style, a little involute. *Capsule* globose, scabrous, 3-celled, 3-valved. *Seed* globose, many in each cell.

Grows in wet soils, around ponds; Paris Island, near Beaufort; Catham Co. Georgia.

Flowers May—July. *Large-flowered Canna.*

THALIA. Gen. pl. 10.

Anthera simplex, ovata, filamento proprio depresso innixa. *Stylus* brevis, ab anthera deflexus. *Stigma* perforatum, ringens. *Capsula* 2-locularis.	*Anther* simple, ovate, inserted into its own depressed filament. *Style* short, bent from the anther. *Stigma* perforate, ringent. *Capsule* 2-celled.

1. DEALBATA.

T. bractea biflora; scapo arundinaceo, pulverulento; foliis apice revolutis. Roscoe, Trans. Lin. Soc. 8. p. 340.	Bractea two-flowered; scape reed-like and with the panicle powdered; leaves revolute at the summit.

Pursh, 2. p. 584.

Root perennial. *Leaves* radical, distichous, cordate-ovate, acute, mucronate, entire, ribbed, glabrous, slightly sprinkled with a white dust, 6—9 inches long, 3—5 wide; petioles 12—24 inches long, near the summit terete, smooth, powdered, at base alternately sheathing the scape. *Flowers* in a terminal panicle. *Scape* erect, columnar, jointed? 3—5 feet high. *Peduncles*, somewhat terete, glabrous, geniculate, apparently jointed. *Involucrum* at each joint many leaved; leaves oblong, lanceolate, acute, nervose, glabrous, deciduous; the 2 lower, as long as the panicle: upper ones small. *Bractea*, spathaceous, two-flowered, sessile, 2-leaved, coriaceous; outer leaf larger, ovate, acute, glabrous without, downy on the inner surface; sheathing the inner leaf: the bractea with every part of the panicle almost covered with a white powder. *Calyx* 3-leaved; leaflets ovate-lanceolate, acute, concave, nearly equal, small, purple.* *Corolla* 1 petalled, six parted, purple: the 3 exterior segments obovate, obtuse, equal; the 4th longer, obovate, rigid, tapering at base, with the margin rounded, emarginate; the 5th lateral, somewhat falcate, angled in the middle, clawed at base; the 6th lateral, similar to the preceding, but with two setaceous processes at the angle. *Nectary?* resembling a petal, 2 parted; the exterior segment large, concave, rigid, truncate with a sack at one angle; the interior segment filiform, as long as the petals, with the summit inflexed, serving as a *filament*. *Anther* lateral, one celled. *Germ* beneath, obovate, very smooth. *Style* thick, spiral. *Stigma* large, concave, (perforate,) inflected, with the lower margin (lip?) elongated. *Nut?* globose, one celled, the shell flexible, membranous.

Grows in damp soils, first discovered by Mr. John Fraser, near Jacksonborough, South-Carolina, then lost to our Botanists, but afterwards found by Mr. Middleton, near Middleton place, Ashley River, in great abundance. Seen by Dr. Baldwin near St. Mary's, Georgia, and by me on James Island.

Flowers June—September. *Powdered Thalia.*

SALICORNIA. GEN. PL. 14.

Calyx ventriculosus, integer. *Corolla* 0. *Semen* 1.	*Calyx* ventricose, entire. *Corolla* 0. *Seed* 1.

1. HERBACEA.

S. annua, erecta, ramosa; articulis apice emarginatis; spicis oppositis, axillaribus; calyce truncato. E.	Annual, erect, branching; joints notched at the summits; spikes opposite, axillary; calyx truncate.

Sp. pl. 1. p. 23. Mich. 1. p. 1. Clayton, p. 1. Bigelow, p. 2. Pursh, 1. p. 2.

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* I have described the corolla and nectarium of this plant with some reference to the Canna. It appears however as if the 3 outer segments were distinct petals, while the fourth, fifth, sixth, and bipartite nectary supporting the anther, adhere firmly at base.

Root annual, somewhat fusiform. *Stem* much branched, about 12 inches high, jointed, succulent; joints concave, 2 toothed; teeth acute, somewhat mucronate. *Flowers* 3, sessile, under each summit of the upper joints. *Calyx* thick, truncate, somewhat 3 sided, 1 leaved, splitting on one side. *Filaments* 2, longer than the calyx, subulate, transparent, slightly striate, 1 before, 1 behind the germ, expanding at different times, the interior one first. (thence considered monandrous.) *Anthers* erect, two lobed, two cleft at base, yellow. *Germ* above, compressed, oblong-ovate. *Style* o. *Stigmas* 2, glandular.

Grows on the inundated shores of the ocean.

Flowers chiefly in August. *Herbaceous Salicornia.*

2. Ambigua. Mich.

S. perennis, procumbens, ramosa; articulis parvis, lunatis; spicis oppositis, alternisque; calyce truncato. E.	Perennial, procumbent, branching; joints crescent-shaped, small; spikes opposite and alternate; calyx truncate.

Mich. 1. p. 2. Pursh, 1. p. 3?

Root fibrous, creeping. *Stem* procumbent and ascending. *Flowers*, *calyx*, *filaments*, as in the preceeding. *Anthers* purplish yellow. *Germ* short, ovate. *Styles* 2, or 0. *Stigmas* 2, obtuse, glandular.

Grows on the sands overflowed by salt water. Very common.

Flowers July—September. *Shrubby Salicornia.*

CALLITRICHE. Gen. pl. 17.

Calyx o. *Petala* 2. *Capsula* 2 locularis, 4 sperma.	*Calyx* o. *Petals* 2. *Capsule* 2 celled, 4 seeded.

1. Heterophylla. Pursh.

C. foliis linearibus, obtusis, semi-amplexicaulibus, supremis paulo spathulatis; floribus androgynis. E.	Leaves linear, obtuse, half embracing the stem, upper ones spathulate; flowers hermaphrodite.

C. verna, Pursh, 1. p. 3. Walt. p. 59. Mich. 1 p. 2.
C. aquatica, Big. p. 2.

Root fibrous. *Stem* procumoent, creeping or floating, round, smooth. *Leaves* opposite, sessile, entire, dotted; immersed leaves linear; floating leaves spathulate. *Flowers* solitary, axillary, sessile. *Petals* lanceolate, white, persistent; at first twice as long as the germ, but smaller than the ripening capsule. *Filament* 1, attached to the base of the germ, shorter than the germ, subulate. *Anther* erect, 2 celled, caducous. *Germ* superior, at first quadrangular, then compressed, emarginate, furrowed. *Styles* 2, longer than the petals, subulate, persistent. *Stigmas* simple, acute. *Capsule* compressed, 4 celled? *Seeds* 1 in each cell, reniform (Seeds 4, naked. Smith fl. Brit.)

Grows in shallow water, and in soft muddy soils.

Flowers March—April. *Spring Callitriche.*

CLASS II.

DRIANDRIA MONOGYNIA.

5 OLEA.
6 CHIONANTHUS.
7 CIRCAEA
8 VERONICA.
9. JUSTICIA
10 ELYTRARIA.
11 GRATIOLA.
12 LINDERNIA.
13 MICRANTHEMUM.
14 PINGUICULA
15 UTRICULARIA.
16. CATALPA.
17 LYCOPUS.
18 CUNILA
19 HEDEOMA.
20 MONARDA.
21 SALVIA
22. COLLINSONIA.

DIGYNIA.

23 ANTHOXANTHUM.
24. ERIANTHUS.

OLEA. Gen. pl. 25.

Corolla 4-fida; laciniis subovatis. *Drupa* monosperma.	*Corolla* 4 cleft; segments ovate. *Drupe* 1 seeded.

1. **Americana.**

O. foliis lanceolatis, ellipticis, integerrimis; racemis angustatis; bracteis omnibus persistentibus, connatis, parvis. Sp. pl. 1. p. 45.	Leaves lanceolate, elliptic, entire; racemes compressed; all the bracteas persistent, connate, small.

Walt. p. 240. Mich. 2. p. 222. Pursh, 1. p. 7.

A small, beautiful, tree 12—20 feet high. *Leaves* opposite, sometimes obovate, lucid, coriaceous, perennial. *Flowers* in many paniculated racemes, fragrant. *Fruit* austere.

Our species of Olea is dioicous; but as the foreign species are generally polygamous, the genus has been retained in this class.

Grows in rich light soils along the sea-coast of Carolina and Georgia. Rarely found 60 miles from the ocean.

Flowers April—May. *American Olive.*

CHIONANTHUS. Gen. pl. 26.

Corolla 4-fida; laciniis longissimis. *Drupæ* nucleus striatus.	*Corolla* 4 cleft; segments very long. *Nut* of the drupe striated.

1. Virginica.

C. panicula terminali, trifida; pedunculis trifloris; foliis acutis. Sp. pl. 1, p. 46,	Panicle terminal. 3 cleft; Peduncles 3 flowered; leaves acute.

Walt. p. 60. Mich. 1. p. 3. Clayton, p. 1. Pursh, 1. p. 7.

A beautiful shrub, from 2—10 feet high, with numerous opposite branches, glabrous. *Leaves* opposite, lanceolate, entire, nitid on the upper surface, deciduous. *Panicle* terminal, composed of opposite branches, with 2 or 3 pair of oval bracteal leaves; the terminating peduncles 3 flowered. *Calyx* very minute, 4 cleft, persistent. Segments of the *corolla* linear, pendulous, white. *Stamens* and *Style* scarcely longer than the calyx.

I have seen in the garden of Mr. Champneys, a variety of this plant with panicles so long that they became cylindrical.

Grows in the low country in damp soils; in the upper country I have generully seen it in such as were dry and fertile.

Flowers April. *Fringe Tree. Virginian Chionanthus.*
White Ash. Old Man's Beard.

The root is used in the form of infusion, as a remedy in long standing intermittents and other chronic diseases.

CIRCÆA. Gen. pl. 21.

Corolla dipetala. *Calyx* 4-phyllys, superus. *Capsula* bilocularis, non dehiscens; loculis monospermis.	*Corolla* 2 petalled. *Calyx* 2 leaved superior. *Capsule* 2 celled, not opening; cells one seeded.

1. **Lutetiana.** *Var. b. Canadensis,* Sp. pl.

C. caule erecto; foliis ovatis, denticulatis, opacis, glabriusculis, Vahl. Enum. pl. 1. p. 301.	Stem erect; leaves ovate, toothed, opake, glabrous.

Sp. pl. 1. p. 58. Mich. 1. p. 17. Clayt. p. 2. Big. 1. p. 8. Pursh, 1. p. 21.

Root perennial. *Stem* round. *Leaves* opposite. *Flowers* in terminal racemes; petals inversely heart shaped, reddish white: capsules roundish, covered with minute hooks; stalks of the capsules bent backward.

Found in Greeneville, South-Carolina, by Mr. Moulins.
Flowers June—September. *Canadian Circæa.*

2. **Alpina.**

C. caule adscendente; foliis cordatis, dentatis, nitidis; calyce membranaceo. Vahl. Enum. pl. 1. p. 301.	Stem ascending; leaves cordate, toothed, shining; calyx membranaceous.

Sp. pl. 1. p. 53. Pursh, 1. p. 21.

Plant small, procumbent. *Leaves* cordate, with distant, and acute serratures. *Spike* filiform. *Fruit* expanding.

VERONICA. Gen. pl. 32.

Corolla limbo 4-partito; lacinia infima angustiore. *Capsula* bilocularis.	Border of the *corolla* 4 parted; the lower segment narrower. *Capsule* 2 celled.
* *Flores terminales, spicati.*	* *Flowers terminal, spiked.*

1. **Virginica.**

V. foliis quaternis quinisve, lanceolatis, acutis, serratis; spicis pluribus. Hort. Kew. 1. p. 26.	Leaves by fours or fives, lanceolate, acute, serrated; spikes many.

Sp. pl. 1. p. 54. Mich. 1. p. 5. Clayt. p. 2. Pursh, 1. p. 10.

Perennial. *Stem* erect, 2—3 feet high, glabrous, slightly angled. *Leaves* verticillate, nearly sessile, glabrous on the upper surface, pubescent on the under. *Flowers* dense, on long axillary spikes; one at the base of each leaf, near the summit of the stem. *Corolla* tubular, white. *Filaments* much longer than the corolla. *Anthers* incumbent. *Germ* above. *Style* long, persistent. *Capsule* tapering to a point at the summit, not emarginate as is usual in this genus.

Grows in the mountain vallies.

Flowers June—August. *Virginian Veronica.*

2. OFFICINALIS.

V. spicis lateralibus, pedunculatis; foliis oppositis, obovato-subrotundis, pilosis, annuis; caule procumbente, hirto. Sp. pl. 1. p. 59.	Spikes lateral, on peduncles; leaves opposite, obovate, nearly round, hairy, annual; stem procumbent, rough.

Mich. 1. p 5. Pursh, 1. p. 10. Smith, flor. Brit. 1. p. 16.

Stem spreading. *Leaves* pale, rigid, hirsute, scabrous. *Spikes* axillary, solitary, peduncled, many flowered, hairy, taller than the stem. *Flowers* pale blue coloured, with deeper veins.

Grows in Carolina. Pursh.

Flowers April—June.

** *Flores corymboso-racemosi.*	** *Flowers in corymbose racemes.*

3. SERPYLLIFOLIA.

V. racemo terminali, subspicato; foliis ovatis, glabris, crenatis. Sp. pl. 1. p. 61.	Raceme terminal, somewhat spiked; leaves ovate, glabrous, crenate.

Sp. pl. 1. p. 64. Walt. p. 60 Mich. 1. p. 4. Clayt. p. 2. No. 367. Big. p 5. Pursh, 1. p. 11.

Perennial. *Stem* 8—12 inches long, decumbent, pubescent, slightly angled, sometimes creeping. *Leaves* opposite, decussate, on short petioles. *Flowers* in a terminal leafy raceme *Peduncles* 2—3 lines long. *Style* persistent. *Capsules* emarginate, ciliate.

Inserted on the authority of Walter and Michaux. I have not met with this species in the Southern States.

Flowers May—June. *Thyme-leaved Veronica.*

Lobate or lobed. Divided into Lobes. (Lobatus.)

Lyrate leaf. Divided several times transversely, the lower divisions smaller and more remote from each other than the upper ones. (Lyratum.)

Membranaceous leaf. Having no distinguishable pulp between the two surfaces. (Membranaceum.)

Mid-rib. The main nerve or middle-rib of the leaf,

Monopetalous or one petalled corolla. The whole in one petal. It may be deeply cut, but is not separated at the base. (Monopetala.)

Monophyllous perianth. Not separated at the base One leafed perianth. (Monophyllum.)

Monospermous. One seeded. (Monosperma.)

Mucronate leaf. Terminating in a small sharp point which seems to be a continuation of the mid-rib: dagger pointed leaf. (Mucronatum.)

Muricate. Armed with sharp prickles applied to the calyx and stem. (Muricatus.)

Naked flower. When the Calyx is wanting.

——Receptacle. Destitute of hairs, bristles or chaff.

——Whorl.—Destitute of an involucrum. (Nudus.)

Nectary. The honey-bearing part of a vegetable, peculiar to the flower. It commonly makes a part of the corolla, but is sometimes entirely distinct from it. It is frequently in the form of a horn or spur: sometimes it takes the shape of a cup. (Nectarium.)

Nerved leaf. Having vessels like threads unbranched extending from the base towards the tip of the leaf. (Nervosum.)

Nitid. Glittering, glossy; so smooth as to shine. (Nitidus.)

Nodding flower. When the peduncle is considerably curved, but not so much as in the drooping flower. (Nutans.)

Ob—In the composition of terms is put for inversely or "*upside-down.*"

Obconical. Inversely conical. (Obconicum.)

Obcordate leaf. A heart-shaped or Cordate leaf connected with the petiole by its apex or tip. (Obcordatum.)

Oblique leaf. Having the base directed towards the sky and the apex or tip towards the horizon. This respects the position of a leaf; but it is more frequently used in another sense, which respects the shape of a leaf, when the surface is placed obliquely or unequally (generally at the base or in the width) to the petiole—(Folium Obliquum.)

Oblong leaf. Having the longitudinal diameter several times exceeding the transverse one; rounded at both ends. (Oblongum.)

Obovate leaf. Inversely ovate. Having the narrow end next the petiole. (Obovatum.)

Obtuse leaf. Ending bluntly but within the segment of a circle. (Obtusum.)

Orbiculate leaf—Circular. (Orbiculatum.)

Oval leaf. Having the longitudinal diameter longer than the transverse one, and the curvature the same at both ends. (Ovale.)

——An Elliptic leaf is longer in proportion to its breadth.

Ovate or egg-shaped leaf. The shape of this leaf is the longitudinal section of an egg. (Ovatum.)

Ovate-lanceolate leaf. Between these two forms but inclining to the latter. (Ovato-Lanceolatum.)

Ovate-oblong leaf. The Ovate leaf lengthened out. (Ovato-oblongum.)

Pair. Applied to leaflets in pinnate leaves which are said to be composed of two, three or four pair of leaflets. (Jugum.)

Palmate leaf. Hand-shaped. It is a simple leaf resembling the hand spread. (Palmatum.)

Panduraeform leaf. Guitar-shaped. Oblong, broader below, contracted on the sides. (Panduræforme.)

Panicle. A mode of flowering in which the flowers are scattered on peduncles variously or irregularly subdivided, as in the grasses. (Panicula.)

Papilionaceous flower. Irregular and usually four petalled. The lower one is called the keel: the upper petal which spreads and rises is called vexillum: the two side ones stand singly, being separated by the keel, and are called Alæ or wings. Some call them pea-blossomed flowers, the pea affording a good example. (Papilionacea.)

Pappus. A feathery or hairy crown of some seeds, by which the seeds are suspended in the air, and dispersed.

Partition. A wall separating a pericarp or seed-vessel internally into cells. (Dissepimentum.)

Pectinate leaf. A sort of pinnate leaf in which the leaflets are toothed like a comb. (Pectinatum.)

Pedate leaf. When a bifid petiole connects several leaflets on the inside only. This species of compound leaf resembles in some degree a bird's foot. (Pedatum.)

Pedicel. The ultimate subdivision of a peduncle connected with the flower itself. (Pedicellus.)

Peduncle. The flower stalk, or partial stem supporting the flowers only. (Pedunculus.)

Peltate leaf. Having the petiole inserted into the disk of the leaf instead of the edge. (Peltatum.)

Perfoliate leaf. A leaf apparently perforated by the stem. (Perfoliatum.)

Perianth. A Calyx contiguous to the other parts of fructification. A less general term than Calyx. (Perianthium.)

Pericarp. Seed vessel or seed case. The most general term for the vessel producing seeds. (Pericarpium.)

Persistent calyx. A calyx which remains after the corolla is withered.

—— Leaves. They remain on the plant till the fruit is ripe or after summer is over.

—— Stipules. Continue after the leaves drop off. (Persistens.)

Personate corolla. A species of lipped corolla which has the lips closed. (Personata.)

Petal. The subdivision of the corolla. Petals are the leaves of the flower. In a monopetalous flower the petal is the corolla. (Petalum.)

Petiole. The stem supporting the leaf. (Petiolus.)

Petiolate leaf. Growing on a petiole. Opposed to sessile. (Petiolatus.)

Pinnate leaf. A species of compound leaf, wherein a simple petiole has several leaflets fastened to each side of it. (Pinnatum.)

Pinnated unequally. Terminated by a single or odd leaflet. (Pinnatum cum impari.)

Pinnatifid leaf. A species of simple leaf, divided transversely by oblong, horizontal segments not extending to the mid-rib. (Pinnatifidum.)

Pistil. An Organ adhering to the fruit for the reception of the pollen. When perfect it consists of the germen, style and stigma. (Pistillum.)

Plicate. Folded like a fan. (Plicatus.)

Plumose or feathery pappus. A pappus composed of feathery hairs. (Plumosus.)

Pollen. The dust contained in the anthers of flowers.

Polypetalous corolla. Composed of many petals. (Polypetala.)

Polyphyllous or many leaved, &c.

Pome. A pulpy pericarp without valves containing a capsule; as the apple, quince, &c. (Pomum.)

Præmorse root or leaf Not tapering but ending blunt as if the end were bitten off. (Præmorsus.)

Prickle. A sharp process from a plant, fixed into the bark only. (Aculeus.)

Prismatic. Of the same thickness from top to bottom, with several flat sides. (Prismaticus.)

Procumbent stem. Unable to support itself, lying on the ground, but without putting out roots. (Procumbens.)

Pubescence. All hairiness in a plant; or whatever clothes it with any hairy or villous substance. (Pubes.)

Raceme. A mode of flowering, consisting of a peduncle with short lateral branches. (Racemus.)

Rachis. A filiform receptacle, collecting florets longitudinally into a spike. To be found in grasses.

Radiate flower. A sort of compound flower consisting of a disk, in which the florets are tubular and regular; and of a ray in which the florets are irregular, as in the Sun-flower.

Radical leaves. Proceeding immediately from the root. (Radicalia.)

Radicant or Rooting stem. Bending to the earth and striking root but not creeping along. (Radicans.)

Radicle. The fibrous part of the root. (Radicula.)

Radius. See Ray.

Ray. The outer part or circumference of a compound flower. (Radius.)

Receptacle. The base by which the other parts of the fructification are connected.

—— Proper. Appertaining to one flower only.

—— Common. Connecting several distinct flowers. (Receptaculum.)

Reclined leaf. Bent downwards so that the point is lower than the base. (Reclinatum.)

Reflexed. Bent back. (Reflexus.)

Reniform. See Kidney-shaped.

Repand leaf. A leaf the rim of which is terminated by angles having sinuses between, inscribed in the segment of a circle. (Repandum.)

Resupinate corolla. When the flower is turned as it were upside-down, so that which is usually the upper leaf becomes the lower. (Resupinata.)

Resupinate leaf. Turned upside-down.

Reticulate corolla or petals. Having distinct veins crossing like net work. (Reticulata.)

Retuse leaf. Ending in a blunt sinus. (Retusum.)

Rhomb-shaped leaf. Having four equal sides but the angles not right angles. The petiole connected with one of the angles. (Rhombeum.)

Rib. The continuation of the petiole along the middle of the leaf. (Costa.)

Ringent corolla. An irregular, one petalled corolla, the border of which is usually divided into two parts, called the upper and lower lip. It is called a gaping corolla. (Ringens.)

Rotate corolla or wheel-shaped. Spreading flat without any tube. (Rotata.)

Runcinate leaf. A sort of pinnatifid leaf, with the lobes convex before and straight behind; like the teeth of the large saw (whip-saw) used for sawing timber. (Runcinatum.)

Sagittate: Shaped like the head of an arrow. (Sagittatum.)

Sarmentose stem. Thread-like, almost naked; or having only leaves in bunches at the joints or knots where it strikes root. (Sarmentosus.)

Scandent or climbing stem. Weak and requiring support in mounting. The tendril or clasper is usually the agent. Different from the twining stem. (Scandens.)

Scape. A stem supporting flowers but not leaves. It may have scales. (Scapus)

Scariose leaf. Of a dry substance, sonorous to the touch.

—— Perianth, rough, thin and semi-transparent. (Scariosum.)

Secund spike. With the flowers all on one side. (Secunda.)

Serrate. Having sharp imbricate notches about the edge, pointing towards the extremity.

—— Having teeth like a saw.—(Serratus.)

Sessile leaf. Connected immediately with the stem or branch without the intervention of a petiole: opposed to a petiolate leaf. (Sessile.)

—— Applied also to flowers, and pappus—

Sheath. A membrane investing a stem or branch as in grasses. (Vagina.)

Sheathing. When a leaf invests a stem or branch by its base in form of a tube. (Vaginans.)

Shrivelling or withering. Decaying without falling off. (Marcescens.)

Shrubby. Perennial with woody stems. (Fruticosus.)

Silicule. A two valved pericarp, having the seeds fixed along both sutures, and the transverse diameter equal or nearly so to the longitudinal. This seed-vessel varies in shape being orbiculate, ovate, or flattened; entire at the end or emarginate. (Silicula.)

Silique. An oblong membranaceous, two valved pericarp, having the seeds fixed along the sutures. The Silicule only differs from this, in form and size. (Siliqua.)

Simple. Not divided or branched. (Simplex.)

Sinuate leaf. Having large curved breaks in the margin. (Sinuatum.) The oak furnishes many examples.

Spadix. A stem-like receptacle proceeding from a spathe.

Spatha or spathe. The calyx or spadix opening or bursting longitudinally in form of a sheath. A spathe often consists of more valves than one and may be halved.

Spathulate leaf. Roundish above with a long linear base: like a spatula or battle-dore. (Spathulatum.)

Spike. A mode of flowering in which sessile flowers are alternate, opposite, or verticillate, on a common simple peduncle: as in Mullein. (Spica.)

Spikelet a little spike. (Spicula.)

Spine or thorn. A sharp point being a continuation of the substance of the wood itself. (Spina.)

Spur or horn. The hinder part of the nectary in some flowers, shaped like a cock's spur or horn.

Squarrose calyx. Consisting of scales very widely divaricating, or spreading every way. (Squarrosus.)

Stamen. An organ for the preparation of the pollen consisting of the filament and anther.

Stem. The body of an herb, bearing the branches, leaves, and flowers. (Caulis.)

Stigma. The top of the pistil, pubescent and moist, in order to detain the pollen.

Stipe. The thread or slender stalk, which supports the pappus, and connects it with the seed. (Stipes.)

Stipule. A scale or diminutive leaf at the base of a petiole, or peduncle. (Stipula.)

Striated stem. Marked or scored with slender or very superficial lines.—(Striatus.)

Strict. Stiff and strait. (Strictus.)

Strobile. A seed vessel or pericarp, made up of scales that are imbricate, or lie over each other: for an Ament in a state of maturity, Pines afford a good example. (Strobilus.)

Style. The middle portion of the pistil connecting the stigma with the germ. (Stylus.)

Suberose stem. Clothed with bark, soft and elastic like cork. (Suberosus.)

Subulate leaf: Linear at bottom but tapering gradually towards the end. (Folium subulatum.)

Superior flower or calyx. Having the receptacle of the flower above the Germ. (Superus.)

Super decompound leaf. When a petiole divided several times connects many leaflets; each part forming a decompound leaf (Supradecompositum.)

Terete. Columnar, without angles—resembling the shaft of a column—I have retained the Latin term, as it is often applied to twining or procumbent plants, where columnar could scarcely be used with propriety—Leaves as well as the stems of plants are sometimes terete.

Tendril or clasper. A spiral thread by which a plant is fastened to another body. (Cirrhus.)

Ternate leaf. Having three leaflets on one petiole. (Ternatum.)

Thyrsus. A mode of flowering which consists of a panicle, contracted into an ovate form.

Tomentose or downy stem or leaf. Covered with hairs so interwoven, as scarcely to be discernible. (Tomentosus.)

Tripinnate leaf. A species of super-decompound leaf; when a petiole has bipinnate leaves ranged on each side of it. (Tripinnatum.)

Truncate leaf. Ending in a transverse line so that it seems as if the tip of the leaf had been cut off. (Folium truncatum.)

Tuber. A knob in roots, solid, with component particles all similar.

Tuberous root. Furnished with tubers. (Tuberosum.)

Turbinate. Shaped like a boy's top. (Turbinatum.)

Twin-anther. Swelling out into two protuberances. (Didyma.)

Twining stem. Ascending spirally round a branch, stem or prop. (Volubilis.)

Twofold leaves. Coming out two and two together from the same place

Valve. The outer covering or coat, of a capsule or other pericarp. (Valva.) Or the divisions of this outer covering.—

Veined leaf. Having the vessels branching, or variously divided over the surface. (Venosum.)

Ventricos or bellied. Swelling out in the middle. (Ventricosum.)

Verticil. (Verticillate.) See whorl and whorled.

Villous leaf. Covered with soft hairs. (Villosum.)

Umbel. A receptacle stretching out into thread-like proportioned peduncles, from the same centre. (Umbella.)

Umbellate. Flowers growing in this manner. (Umbellatus.)

Urceolate or pitcher-shaped. Bellying out like a pitcher. (Urceolatus.)

Wedge-shaped leaf. Having the longitudinal diameter exceeding the transverse one, and narrowing gradually downwards. (Cuneiforme.)

Whorl. A sort of flowering made up of many, nearly sessile, flowers, surrounding the stem in a ring. (Verticillus.)

Whorled leaves. Surrounding the stem at one place. (Verticillata.)

Winged petiole. Having a thin membrane or border on each side; or, dilated on the sides: as in the orange. (Alatus.)

Wrinkled leaf. When the intermediate substance rises above the veins, owing to their contraction. (Rugosum.)

[*Extracted principally from Martyn's Language of Botany.*]

4. **Anagallis.**

V. racemis lateralibus; foliis lanceolatis, serratis; caule erecto. Sp. pl. 1. p. 65.	Racemes lateral; leaves lanceolate, serrate; stem erect.

Mich 1. p. 5. Pursh, 1. p. 11.

Grows in Carolina, Pursh. Like most of the species in this genus, naturalized.
Flowers May—July.

*** *Pedunculis unifloris.*	*** *Peduncles one flowered.*

5. **Agrestis.**

V. floribus solitariis, pedunculatis; foliis cordatis, petiolatis; caule pubescente. Sp. pl. 1. p. 72.	Flowers solitary, peduncled; leaves cordate, petiolate; stem downy.

Root annual, fibrous. *Stem* procumbent, hairy. *Leaves* alternate, on short footstalks, cordate-ovate, notched, strongly veined, particularly on the lower surface. *Flowers* axillary, solitary; peduncles terete, hairy, after flowering bending to the ground. *Calyx* 1 leaved, deeply 4 parted, persistent; segments equal, lanceolate, 3 nerved, hairy, ciliate. *Corolla* longer than the calyx, pale blue, with deeper veins. *Filaments* attached to the tube of the corolla, shorter than corolla, dilated in the middle, *Anthers* incumbent, nearly globular, pale blue, 3 celled. *Capsule* 2 celled, 4 valved, furrowed, emarginate, hairy. *Seed* 8 in each cell, sitting on tubercles on a central receptacle.

Grows in damp soils. Around Savannah and Beaufort, very common; probably imported.
Flowers January—April. *Procumbent Veronica.*

6. **Arvensis.**

V. floribus solitariis, foliisque cordatis subsessilibus; caule hirto. Sp. pl. 1. p. 43.	Flowers solitary, and with the cordate leaves nearly sessile; stem rough, hairy.

Walt. p. 61. Mich. 1. p. 4. Clayt. p. 2, No. 368. Pursh, 1. p. 11.

Root annual, fibrous. *Stem* procumbent, hairy and downy; branches assurgent. Lower *leaves* opposite, on very short footstalks, cordate-ovate, obtuse, slightly toothed, obscurely 3 nerved; upper leaves sessile, alternate, lanceolate, entire or slightly toothed. *Flowers* axillary, solitary, towards the summit of the branches nearly sessile; after flowering, the peduncles extend to 1—2 lines. *Calyx* 1 leaved, deeply 4 parted, segments a little unequal, persistent. *Corolla* pale blue, shorter than the calyx. *Filaments* half the length of the corolla, inserted into its tube. *Anthers* somewhat cordate, 2 celled, white. *Germ* superior, compressed, furrowed. *Style* clavate, as long as the filaments. *Stigma* obtuse. *Seed* 6—8 in each cell, obovate, dotted.

Grows in soils somewhat damp, around Charleston. Like the preceding, imported.

Flowers May—June. *Field Veronica.*

7. PEREGRINA.

V. floribus solitariis, sessilibus; foliis oblongis, obtusiusculis, dentatis integrisque; caule erecto. Smith, Trans. Lin. Soc. 1. p. 19.	Flowers solitary, sessile; leaves oblong, rather obtuse, toothed and entire; stem erect.

Mich. 1. p. 4. Pursh, 1. p. 11.
V. Caroliniana, Walt. p. 61.

Root annual. *Stem* erect and procumbent, 8 inches high, terete, smooth, frequently without branches. The lowest *leaves* opposite, toothed; the upper alternate, linear-lanceolate, nearly entire; all smooth. *Flowers* axillary, solitary, nearly sessile. *Corolla* white, shorter than the calyx. *Filaments* nearly half as long as the corolla. *Anthers* somewhat sagittate, white. *Seeds* shining.

Grows in cultivated grounds very abundantly.

Flowers February—March. *Maryland Veronica.*

JUSTICIA. GEN. PL. 35.

Calyx simplex s. duplex. *Corolla* 1-petala, irregularis. *Capsula* ungue elastico dissiliens; dissepimentum valvis contrarium.	*Calyx* simple or double. *Corolla* 1 petalled, irregular. *Capsule* opening with an elastic spring; partition contrary to the valves.

1. HUMILIS. Mich.

J. spicis axillaribus, alternis, elongatis; floribus geminis; bracteis lanceolatis ; foliis oblongo-lanceolatis. E.	Spikes axillary, alternate, long ; flowers in pairs; bracteas lanceolate; leaves oblong-lanceolate.

Mich. 1. p. 8. Pursh, 1. p. 13.
Dianthera ovata, Walt. p. 1. 63.

Root creeping, perennial. *Stem* herbaceous, assurgent, 12—18 inches high, nearly furrowed, smooth below, rough near the summit, jointed. *Leaves* opposite, decussate, nearly sessile, generally lanceolate, slightly acuminate, serrulate, the upper surface and veins beneath scabrous. *Bracteas* minute. *Calyx* 1 leaved, 5 parted, persistent; tube ventricose; segments of the border linear, lanceolate, equal. *Corolla* bilabiate, violet coloured; upper lip shorter, reflected, slightly notched ; the lower three cleft, segments acute, the middle one longer: spotted at base. *Filaments* 2, filiform, shorter than the corolla, inserted into the tube of the corolla near its summit. *Anthers* 2 on each filament, one terminal, the other lateral, both one lobed. *Germ* superior, somewhat conical. *Style* slender, longer than the stamens, slightly two cleft. *Stigmas* 2, obtuse. *Capsule* stipitate, compressed.

Grows in humid soils—not rare.
Flowers May—June. *Ovate leaved Justicia.*

2. ENSIFORMIS. Walt.

J. spicis sub-capitatis; pedunculo longo, solitario; foliis ensiformibus. Walt.	Spikes nearly in heads; peduncle long, solitary; leaves ensiform.

Dianthera ensiformis, Walt. p. 63.
Justicia pedunculosa Vahl.? Pursh, 1. p. 13.

Stem erect, 1—2 feet high, obtusely 4 angled. *Leaves* opposite, decussate, linear lanceolate, very acute, a little oblique, glabrous.

I have only seen specimens without flowers.
Grows in St. John's, Dr. Macbride.
Flowers May.

ELYTRARIA. MICH.

Calyx 4 partitus, lacinia antica fissa. *Corolla* 5-fida, laciniis subæquali-	*Calyx* 4 parted with the front segment divided. *Corolla* 5 cleft, seg-

bus. *Filamenta* 2 sterilia. *Capsula* 2-valvis, 2-locularis.	ments nearly equal. 2 sterile *filaments*. *Capsule* 2 celled, 2 valved.

1. VIRGATA. Mich.

E. foliis superne integris, nervisque subtus glabellis; squamis floriferis, ovatis, margine villosis.	Leaves entire near the summit, and with the nerves underneath somewhat smooth; scales beneath the flower ovate, villous along the margins.

Vahl. Enum. pl. 1. p. 106.
Anon. Caroliniensis, Walt. p. 63.

Root perennial. Root *leaves* long, lanceolate, wedge shaped at base, scabrous on the upper surface, glabrous underneath, slightly undulate and repand near the base. *Scape* 12—18 inches high, clothed with ovate, very acute, scales embracing the stem. *Flowers* in a dense spike. *Bracteas* like the stem leaves, rigid, enveloping the flower. Scales 2at the base of the calyx, small, hairy. *Calyx* 4 parted, the segments nearly equal, somewhat hairy, the anterior 1—2 cleft. *Corolla* tubular; border 5 cleft, (4 Walt). *Stamens* short. *Germ* superior. *Style* capillary. *Stigma* tongue shaped. *Seed* few in each cell, small

Grows in damp pine barrens.

Flowers May—June.

GRATIOLA. GEN. PL. 37.

Corolla irregularis, resupinata. *Stamina* 2 sterilia. *Capsula* 2-locularis. *Calyx* 5-phyllus.	*Corolla* irregular, resupine *Stamens* 2 sterile. *Capsule* 2 celled. *Calyx* 5 leaved.
* *Bracteæ 2 ad basin calycis.*	* *Bracteas 2, at the base of the calyx.*

1. VIRGINICA.

G. glabra, caule assurgente, tereti: foliis lanceolatis ovalibusque, serratis; calycis foliolis æqualibus. E.	Plant glabrous; stem assurgent, terete; leaves lanceolate and oval, serrate; leaves of the calyx equal.

Sp. pl. 1. p. 104. Walt. p. 6. Pursh, 1. p. 12.
Clayton, p. 3. No. 379.

Root perennial. *Stem* herbaceous, a little succulent, slightly furrowed generally erect. *Leaves* sessile, rather acute, obscurely 3 nerved. *Flowers* axillary, solitary, on peduncles half the length of the leaves. *Bracteas* linear-lanceolate, persistent; expanding, shorter than the calyx. *Corolla* one leaved, tube slightly incurved and angled, border 4 cleft, segments unequal in breadth, rounded, slightly emarginate, purplish white, with deeper veins and streaks, pubescent without, bearded within. *Filaments* 2, inserted into the base of the corolla, not half its length. *Anthers* oblong, somewhat reniform, 2 celled, white. Rudimets of 2 sterile *filaments* very short. *Germ* superior, ovate, compressed, furrowed. *Style* filiform, equalling the stamens, persistent. *Stigma* compressed, bilabiate. *Capsule* ovate, slightly compressed, somewhat angular, 2 celled, 2 valved. *Seed* numerous, attached to a central receptacle, oblong, roughened with elevated dots.

Grows in wet places, ditches, &c. very abundantly.

Flowers March—April. *Virginian Gratiola.*

2. Aurea. Muhl. Cat.

G. glabra; caule procumbente, tereti; foliis ovato-lanceolatis, semi-amplexicaulibus, acute serratis, punctatis; calycis foliolis æqualibus. E.	Plant glabrous; stem procumbent, terete; leaves ovate-lanceolate, half embracing the stem, acutely serrate, dotted; leaves of the calyx equal.

G. officinalis? Mich. 1. p. 6. Pursh, 1. p. 12.

Root perennial? creeping. *Stem* 1—2 feet long, terete, slightly furrowed, jointed, taking root at the joints, with the summits assurgent. *Leaves* rather thick, obscurely 3 nerved. *Flowers* axillary, solitary, generally alternate, on peduncles shorter than the leaves. *Bracteal* leaves as long as the calyx. *Corolla* bright yellow.

Grows in the wet pine barrens in Georgia, and the southern part of Carolina, abundantly.

Flowers April—June. *Yellow-flowered Gratiola.*

3. Pilosa. Mich.

G. pilosissima; caule erecto; foliis ovalibus, semi-amplexicaulibus, serratis, rugosis; calycis foliolis inæqualibus. E.	Plant very hairy; stem erect; leaves oval, half embracing the stem, serrate, rugose; leaves of the calyx unequal.

Mich. 1. p. 7. Pursh, 1 p. 13.
G. Peruviana, Walt. p. 62.

Root perennial. *Stem* 1—2 feet high, round below, square towards the summit, clothed with transparent, jointed, hair. *Leaves* half embracing the stem; the lower ones obtuse: the upper rather acute. *Flowers* axillary, solitary, nearly sessile. *Corolla* 4 cleft, one segment larger than the rest, white, tinged with purple. *Filaments*, 2 short, inserted into the tube of the corolla, 2 sterile, near its base. *Capsule* smooth.

Grows in ditches and wet places. Common.

Flowers July—September. *Hairy Gratiola.*

4. SPHÆROCARPA. E.

G. glabra; caule procumbente, tereti; foliis obovatis, basi attenuatis, serratis; capsula globosa. E.	Plant glabrous; stem procumbent, terete; leaves obovate, tapering at base, serrate; capsule globose.

Root perennial. *Stem* jointed, taking root at the joints, fleshy, furrowed. *Leaves* sessile, obscurely 3 nerved. *Flowers* solitary, axillary, nearly sessile. Leaves of the *calyx* equal; *bracteal* leaves larger, expanding, slightly toothed. *Corolla* with the tube slightly angled, the border 4 parted, one segment broader, emarginate. *Filaments* 2, shorter than the corolla, inserted into its tube. *Anthers* 2 celled, white. Sterile *filaments* o. *Germ* superior. *Style* filiform, short. *Stigma* compressed, bilabiate. *Capsule* globose, 2 celled, 2 valved. *Seeds* numerous, angled, roughened, attached to a central receptacle.

This plant agrees with the Gratiola, in habit, calyx, corolla, pistil and seed; but recedes from that genus by its globular capsule, and the want of sterile filaments.

Grows in ponds 4 miles from Charleston, on the Neck.

Flowers September—October. *Round-fruited Gratiola.*

** *Bracteis nullis.*	** *Without Bracteas.*

5. QUADRIDENTATA. Mich.

G. pubescens; caule procumbente, tereti; foliis lato-subulatis, 2 vel 4 dentatis; calycis foliolis inæqualibus. E.	Plant pubescent; stem procumbent terete; leaves subulate, 2 or 4 toothed; leaves of the calyx unequal.

Mich. 1. p. 6. Pursh, 1. p. 12.
G. ramosa, Walt. p. 61.

Root perennial, creeping. *Stem* slightly furrowed; the pubescence glandular, capitate. *Leaves* opposite, rarely by threes, obscurely dotted, rounded at base, with 2 teeth always near the summit. *Flowers* solitary, axillary, on peduncles, at first shorter than the leaves, afterwards equalling them. Tube of the *corolla* yellowish, streaked with purple; border white. *Filaments* sessile, shorter than the corolla; 2 sterile very short. *Anthers* white. *Style* longer than the stamens. *Stigma* bilabiate. *Capsule* much shorter than the calyx.

Grows around ponds—not rare.

Flowers May—July. *Four toothed Gratiola.*

6. TETRAGONA. E.

G. glabra; caule procumbente, tetragono; foliis lanceolatis, parce dentatis; calycis foliolis æqualibus. E.

Plant smooth; stem procumbent, square; leaves lanceolate, sparingly toothed; leaves of the calyx equal.

Root perennial. *Stem* taking root at the joints, exactly square. *Leaves* sessile, acute, 4—6 toothed, obscurely 3 nerved. *Flowers* on square peduncles 2—3 lines long. Leaves of the *calyx* linear, finely serrulate. *Corolla* white, with coloured streaks. *Capsules* oblong, acute, somewhat compressed and oblique, as long as the calyx.

Grows in ponds and ditches four miles from Charleston.

Flowers September—November. *Square-stemmed Gratiola.*

7. ACUMINATA. Walt.

G. glabra; caule quadrato, erecto; foliis lanceolatis, subobtusis, versus apicem dentatis; staminibus 4, fertilibus. E.

Plant glabrous; stem square, erect; leaves lanceolate, rather blunt, toothed toward the summit; stamens 4, fertile.

Walt. p. 61.

Root perennial. *Stem* 12—18 inches high, the angles slightly winged. *Leaves* somewhat wedge-shaped at base. *Flowers* solitary, axillary, on peduncles generally longer than the leaves. Leaves of the *calyx* a little unequal in breadth. Border of the *corolla* 4 parted, 1 segment wider, bearded within, all slightly toothed and mucronate. *Filaments* 4, of which two are shorter, inserted into the tube of the corolla. *Germ* superior. *Style* shorter than the stamens. *Stigma* compressed, bilabiate. *Capsule* oblong-ovate, compressed, acute, 2 celled, 2 valved. *Seeds* many, cylindrical, truncate, striate, attached to a central receptacle.

Grows in ditches and wet places, extensively diffused.

Flowers August—September. *Walter's Gratiola.*

The G. acuminata, by its regular didynamous flower, and the G. sphærocarpa, by its fruit, appear to be somewhat distinct from the other species; but I have retained them, unwilling to multiply genera.

8. Megalocarpa. E.

G. foliis lanceolatis, serratis, pubescentibus; pedunculis oppositis, foliis longioribus; calycis foliolis linearibus, longitudine capsulæ subglobosæ. Pur.

Leaves lanceolate, serrate, pubescent; peduncles opposite, longer than the leaves; leaves of the calyx linear, as long as the globose capsule.

G. acuminata, Pursh, 1. p. 12.

Flowers pale yellow, large. *Capsule* larger than any other. Pursh.

This species is unknown to me but it appears to be very distinct from the G. acuminata of Walter. The length of the peduncle is perhaps the only point in which they agree. I know not to which section it properly belongs.

Grows in ditches and pools from Pennsylvania to Carolina. Pursh.
Flowers July—August. *Large-fruited Gratiola.*

* LINDERNIA. Gen. pl. 1031.

Calyx 5-phyllus. *Corolla* 2-labiata, labio superiore breviore, reflexo, emarginato. *Filamenta* 4; 2 longioribus, furcatis, sterilibus. *Capsula* 2-locularis, 2-valvis.

Calyx 5 leaved. *Corolla* bilabiate, upper lip short, reflected, emarginate. *Filaments* 4; 2 longer, forked, sterile. *Capsule* 2 valved, 2 celled.

1. Dilatata. Muhl. Cat.

L. foliis basi dilatatis, amplexicaulibus, parce dentatis; pedunculis foliis longioribus. E.

Leaves dilated at base, embracing the stem, sparingly toothed; peduncles longer than the leaves.

L. pyxidaria, Pursh, 2. p. 419.
Gratiola inæqualis, Walt. p. 61.
G. anagallidea, Mich. 1. p. 5.
Clayton, p. 3. No. 164.

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[*] I have placed this genus in the class Diandria, on account of its great affinity to Gratiola, and because it has really but 2 fertile stamens. The forked filaments I have found invariably sterile.

Root annual. *Stem* procumbent, square, smooth. *Leaves* oblong, ovate, obtuse, unequal, obscurely 3—5 nerved. *Flowers* axillary, solitary, on square peduncles, sprinkled with capitate hair. Leaves of the *calyx* a little unequal, pubescent, ciliate. *Corolla* twice as long as the calyx, pale purple, resupine, 4 cleft; upper segment broader; 3 lower segments (forming the under lip) oval, obtuse. *Filaments* 4, inserted into the tube of the corolla; 2 longer, equalling the tube of the corolla, sterile, forked near the summit, the points recurved; 2 shorter, filiform, fertile. *Anthers* 2 lobed, incumbent, white. *Germ* superior, oblong-ovate. *Style* short, thick, persistent. *Stigma* compressed, bilabiate. *Seeds* many, oval, attached to a central receptacle.

Grows in ditches, around ponds. Plant small.
Flowers May—September. *Dilated-leaved Lindernia.*

2. ATTENUATA. Muhl. Cat.

L. foliis lanceolatis obovatisque, basi attenuatis; pedunculis foliis duplo brevioribus. E.	Leaves lanceolate and obovate, attenuate at base; peduncles twice as short as the leaves.

Root annual. *Stem* procumbent, square, smooth. *Leaves* somewhat spathulate, serrulate. *Flowers* axillary, solitary, on short terete peduncles. Leaves of the *calyx* nearly equal, serrulate. Sterile *filaments* villous.

Grows in wet places. Vall'Ombrosa, Ogechee, Georgia.
Flowers May—June. *Tapering-leaved Lindernia.*

MICRANTHEMUM. Mich.

Calyx 4-partitus. *Corolla* inæqualiter 4-fida. *Capsula* 1-locularis, 2-valvis, polysperma.	*Calyx* 4 parted. *Corolla* unequally 4 cleft. *Capsule* 1 celled, 2 valved, many seeded.

1. ORBICULATUM. Mich.

M. foliis orbiculatis, basi abrupte angustatis. E.	Leaves orbicular, abruptly narrowed at base.

Mich. 1. p. 10. Pursh, 1. p. 10.
Anon. umbrosa, Walt. p. 63.

Root perennial. *Stem* prostrate, creeping, glabrous, round. *Leaves* opposite, sessile, very entire, obscurely 5 nerved. *Flowers* axillary, solitary, opposite, on peduncles 1—2 lines long. Segments of the *calyx* a little spathulate, the two upper ones shorter. *Corolla* shorter than the calyx, white; upper segments shorter, the lower elongated;

all obtuse. *Filaments* 2, shorter than the corolla, dilated at base, inserted into the tube of the corolla at the fissures of the lower segments. *Anthers* 2 lobed, globose, white. *Germ* superior. *Style* filiform, as long as the anthers, bending to them. *Stigma* nearly globose. *Capsule* globose, 1 celled, 2 valved. *Seeds* many, oval, transversely striate, attached to a central receptacle.

Grows in shallow water and in muddy places. Very common.

Flowers nearly through the whole year.

Round-leaved Micranthemum.

2. EMARGINATUM. E.

M. foliis ovalibus obovatisque, emarginatis; floribus sessilibus. E.	Leaves oval and obovate, emarginate; flowers sessile.

Root perennial. *Stem* prostrate or floating, creeping. *Leaves* sessile, entire, obscurely 5 nerved. From the preceding it only differs in having its leaves more remote, 3 or 4 times as long, obovate, slightly emarginate; while the flowers are if possible smaller, and on peduncles scarcely visible.

Grows in ditches and wet places—Vall'Ombrosa, Great Ogechee. In the upper country, common.

Flowers through the whole summer.

Large-leaved Micranthemum.

PINGUICULA. GEN. PL. 40.

Corolla ringens, calcarata. *Calyx* bilabiatus, 5-fidus. *Capsula* 1-locularis.	*Corolla* ringent, with a spur at base. *Calyx* bilabiate, 5 cleft. *Capsule* 1 celled.

1. ELATIOR.

P. corollæ limbo subæqualiter 5-fido, laciniis bilobis, lobis plerumque indivisis; calcare compresso, obtuso, tubo dimidio breviore. E.	Border of the corolla equally 5 cleft, segments 2 lobed, lobes generally entire; spur compressed, obtuse, half as long as the tube.

Mich. 1. p. 11. Pursh, 1. p. 14.
P. cœrulea, Walt. p. 63.

Root perennial, composed of thick and fleshy fibres. *Stem* 0. *Leaves* radical, spathulate-ovate, entire, obtuse, viscid, the margins rolled in, (as in every species in this country), so as to appear like a deltoid leaf. *Scape* columnar, 8—12 inches high, villous at base, 1—4 from each root. *Flowers* solitary, nodding before they expand. *Calyx* deeply 5 cleft, segments oval, obtuse, the two lower ones near together. Tube of the *corolla* ventricose, villous within, greenish, veined with purple. *Filaments* 2, attached to the base of the germ, short, thick, appressed to the germ. *Anthers* approximate, globose, one celled, opening at the summit. *Germ* superior, globose. *Style* very short, compressed. *Stigma* bilabiate; upper lip very short, somewhat 3 lobed; the lower dilated, villous, reflexed, covering the anthers. *Capsule* globose, 1 celled, pointed with the persistent style. *Seeds* numerous, oval, attached to a central receptacle.

Grows in damp soils; not common near the ocean; very frequent in the middle districts.

Flowers March—April. *Tall Pinguicula.*

2. **Lutea.** Walt.

P. corollæ limbo 5-fido, laciniis bilobis, lobis bidentatis; calcare subulato, tubo paulo breviore. E.

Border of the corolla 5 cleft, segments 2 lobed, lobes 2 toothed; spur subulate, a little shorter than the tube.

Walt. p. 63. Mich. 1. p. 11. Pursh, 1. p 14.

Scape 1—3 from each root, 6—8 inches high, pubescent, one flowered. *Calyx* equally 5 cleft. *Corolla* campanulate, segments almost equally 2 lobed. *Stigma* with the upper lip very minute; the inferior dilated, covering the anthers. *Plant* generally pubescent, the hairs all terminated by a small viscid globule.

Grows in damp pine barrens, very common.

Flowers March—April. *Yellow Pinguicula.*

3. **Pumila.** Mich.

P. corollæ limbo 5-fido, laciniis emarginatis, lobis integerrimis; calcare subulato, subobtuso, tubum æquante. E.

Border of the corolla 5 cleft, segments emarginate, lobes entire; spur subulate, a little obtuse, as long as the tube.

Mich. 1. p. 11. Pursh, 1. p. 14.

Leaves more smooth than in the preceding species. *Scapes* 2—6 from each root, 3—5 inches high, very downy, each hair capitate. Segments of the *calyx* all obtuse, very downy. *Corolla* pale blue, tube yellowish, streaked with purple, villous within. *Stigma* with the upper lip short, slightly 3 lobed; the lower dilated, ciliate, covering the anthers. *Capsule* globose, downy, 4? valved.

Grows in flat pine barrens. Very common in Georgia, south of the Ogechee river.

Flowers March—April. *Small Pinguicula.*

UTRICULARIA. Gen. pl. 41.

Corolla ringens, calcarata. *Calyx* 2-phyllus, æqualis. *Capsula* unilocularis.	*Corolla* ringent, with a spur at base. *Calyx* 2 leaved, equal. *Capsule* 1 celled.

1. Inflata. Walt.

U. fluitans; racemis multifloris, involucro ? hexaphyllo, verticillato, suffultis; corollæ labio inferiore 3-lobato; calcare profunde emarginato. E.	Floating; racemes many flowered, supported by a six leaved, verticillate involucrum; lower lip of the corolla 3 lobed; spur deeply emarginate.

Walt. p. 64.
U. ceratophylla, Mich. 1. p. 12. Pursh, 1. p. 15.

* *Stem* perennial, submersed, branching, terete, glabrous. *Leaves* alternate, 2—3 inches long, at base 3 or 4 parted, appearing at first sight as if verticillate, above much divided; segments all setaceous, alternate or dichotomous, kneed at the divisions, and just above them furnished with an ovate, compressed, dark, air vessel. (Utriculus). *Flowers* in simple racemes, 6—10 flowered; the common peduncle 8—12 inches long, supported below the middle by a verticillate involucrum, floating on the surface of the water. Leaves of the *involucrum* 3—4 inches long, spungy, much divided towards the extremities, without air vessels; segments setaceous. *Calyx* 2 leaved, persistent; leaves nearly equal, concave, ovate, nervose, the lower slightly emarginate. *Corolla* yellow; upper lip broad-ovate, entire; the lower larger, three cleft, the lateral segments broad, the middle one longer; spur somewhat lanceolate, compressed, bifid, half as long as the lower lip of the corolla. *Filaments* 2, short, nearly united at base, inserted into the tube of the corolla. *Germ* superior, ovate. *Style* as long as the stamens, filiform. *Stigma* bilabiate; upper lip truncate; the lower dilated, reflexed, ciliate. *Capsule* 2 valved. *Seeds* numerous.
Grows in tranquil waters, very common.
Flowers March—May.

2. Fibrosa. Walt.

U. fluitans; racemis, paucifloris, involucro nul-	Floating; racemes few flowered, involucrum 0;

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* The term *Stem* used in describing the *floating* species of this genus, is applied to that part of the plant which is always submersed. In the 1st species the term is correctly applied, but whether so in the others, is somewhat doubtful.

lo; corollæ majusculæ labio inferiore obscure 3-lobato; calcare emarginato.	lower lip of the large corolla obscurely 3 lobed; spur emarginate.

Walt. p. 64. Pursh, 1. p. 15 ?

Stem 2—3 feet long, round, submersed. *Flowers* in simple racemes, 2—3 flowered; common peduncle 6—8 inches long, columnar; proper peduncle 1—2 inches long, slender. *Corolla* large, yellow; upper lip large, rounded, obscurely 3 lobed; lower lip smaller; spur subulate, as long as the lower lip.

From specimens sent from St. John's, by Dr. Macbride.

Grows in St. John's. Sometimes when deserted by the water appears to shoot from the base of each peduncle, fibrous roots sparingly furnished with utriculi. Corolla large but not equal in size to that of the U. inflata.

Flowers September—October.

3. SACCATA. Le Conte.

U. fluitans; pedunculis axillaribus subunifloris; involucro nullo; corollæ labio inferiore trilobato, lobis lateralibus apice saccatis. Le Conte.	Floating; peduncles axillary, generally one flowered; involucrum 0; lower lip of the corolla 3 lobed, lateral lobes ending in small sacks.

U. purpurea, Pursh, 1. p. 15.

Stem 1—2 feet long, terete, glabrous, submersed. *Leaves* alternate, 4—5 parted at base, as if verticillate; each segment again divided in a similar manner; upper segments pinnatifid all setaceous. *Peduncles* 1—2 in each axil, 2—3 inches long, sometimes, though rarely, 2 flowered. Leaves of the *calyx* emarginate. *Corolla* purple; upper lip nearly round: the lower longer; the lateral lobes cucullate ? by the formation of their sacks nearly conic; the middle one longer, oval, with its margin reflected; spur subulate, compressed, half as long as the lower lip, appressed to the middle lobe, covered by its reflexed margins, and closing the mouths of the lateral sacks. *Seed* very numerous and small, attached to little tubercles on a central receptacle.

Grows in stagnant water. Extensively diffused, though to me, not very common.

Flowers June—July.

4. LONGIROSTRIS. Le Conte.

U. fluitans; involucro nullo; pedunculis 1—2 floris; calcare corollæ	Floating; involucrum 0; peduncles 1—2 flowered; spur longer than

labio inferiore longiore, adscendente, emarginato. Le Conte.	the lower lip of the corolla, ascending, emarginate.

Floating in stagnant waters. *Leaves* divided, segments setaceous. *Peduncles* 3—4 inches long, generally 2 flowered. Lips of the *corolla* obscurely 3 lobed; corolla yellow, of a middle size.

Grows in stagnant water, both in Carolina and Georgia.

Flowers June.

5. GIBBA.

U. fluitans; pedunculis sub-bifloris; calcare corollæ labio inferiore breviore, obtuso, medio gibbo. E.	Floating; peduncles generally 2 flowered; spur shorter than the lower lip of the corolla, obtuse, gibbous in the middle.

Sp. pl. 1. p. 113. Pursh, 1. p. 16.

Floating in stagnant water. *Scape* or rather *peduncle* 6 inches long, bearing a few small flowers. *Corolla* yellow, the lips slightly lobed; the spur a little shorter than the lower lip, bulging in the middle.

Grows in ponds 6 miles from Charleston.

Flowers in June.

6. BIPARTITA. E.

U. radicans; pedunculis, paucifloris; corollæ labiis subintegris, calcare brevi, obtuso; calycis foliolo inferiore bifido. E.	Radicant; peduncles few flowered; lips of the corolla nearly entire, spur short, obtuse; lower leaf of the calyx two cleft.

Generally growing in soft muddy places. *Scape* 2—4 inches high. *Flowers* one to three. *Corolla* rather small, lips nearly equal and entire; spur (I describe from specimens) scarcely half as long as the corolla, very obtuse. Lower lip of the *calyx* generally 2 cleft; sometimes divided to its base.

Sent from St. John's by Dr. Macbride.

Flowers in October.

7. **Biflora.** La Marck.

U. fluitans; pedunculis sub-bifloris; corollæ labiis integris; calcare subulato, obtuso, labium inferius æquante. Le Conte.

Floating; peduncles generally 2 flowered; lips of the corolla entire; spur subulate, obtuse, as long as the lower lip.

La Marck, illust. 1. p. 50. Pursh, 1. p. 15.
U. Integra, Le Conte. Juss.

Stem slender, submersed. *Leaves* alternate, divided as if verticillate; segments setaceous. *Peduncles* axillary; the common peduncle, 3—4 inches long; pedicel 2—3 lines long. *Corolla* yellow, rather small: the upper lip entire, (obscurely 3 lobed, Le Conte,) reflexed; the lower rather longer.

Grows in ditches and stagnant water. Ogechee causeway, Vall'Ombrosa.

Flowers May—June.

8. **Personata.** Le Conte.

U. scapo multifloro; corollæ labio superiore emarginato, inferiore obtuso, cum acumine; calcare recto, acuto. Le Conte.

Scape many flowered; upper lip of the corolla emarginate, lower obtuse, with a point; spur straight, acute.

Root fibrous. *Leaves* 0? *Scape* 12—23 inches high, 4—10 flowered, slender, glabrous, furnished with small scales. *Flowers* yellow, rather large. Spur subulate, very acute, a little curved.

This species nearly resembles the U. cornuta, Mich. but appears to differ from it in having a more slender and acute spur, more numerous and smaller flowers.

Grows in damp clayey soils near Columbia, M. Herbemont. St. Stephens, Dr. Macbride.

9. **Setacea.** Mich.

U. scapo multifloro; corollæ labio superiore ovato, inferiore promisse trilobato; calcare subu-

Scape many flowered; upper lip of the corolla ovate, lower strongly 3 lobed; spur subulate, as

lato, labium inferius corollæ æquante. Le Conte.	long as the lower lip of the corolla.

Mich. 1. p. 12.
U. pumila, Walt. p. 64.
U. subulata ? Pursh, 1. p. 15.

Root fibrous. *Stem* erect, setaceous, 2—4 inches high, furnished with a few ovate scales. *Flowers* 4—7 on short setaceous peduncles. Lower leaf of the *calyx* slightly emarginate. Lower lip of the *Stigma* somewhat lacerate.

Grows in wet, springy soils, very common.
Flowers April—May. *Bristle-stalked Utricularia.*

In this genus I have been aided by the notes of Jno. Le Conte, Esq. of Georgia, who has paid it much attention. It still wants examination. I have not been able to meet with all the species I have enumerated in a living state, and specimens in this genus it is difficult to preserve. U. saccata is generally supposed to be the U. purpurea of Walter, and as it grows in the neighborhood where he resided, it may be his plant. I once found in the pastures of Silkhope, near Savannah, a small species with purple flowers, attached to the earth, strongly resembling the U. setacea, which then appeared to me to agree exactly with the U. purpurea, Walt. I retained no specimens of it, and since my attention has been turned more directly to this work, I have been unable again to discover it. It is not therefore, at present, inserted among my species.

CATALPA. WALT. JUSS.

Calyx 2-partitus. *Corolla* campanulata, ventricosa. *Filamenta* 3 sterilia. *Capsula* cylindrica, 2-valvis, 2-locularis.	*Calyx* 2 parted. *Corolla* campanulate, ventricose. 3 sterile *filaments*. *Capsule* cylindrical, 2 celled, 2 valved.

1. CORDIFOLIA. Duham.

C. foliis simplicibus, cordatis, integerrimis, ternis ; floribus paniculatis.	Leaves simple, cordate, entire, by threes ; flowers in panicles.

Catalpa syringæfolia, Pursh, 1. p. 10.
Mich. Arbres forest. 3. p. 217.
Catalpa bignonioides, Walt. p. 64.
Bignonia Catalpa, Sp. pl. Mich. 2. p. 25.

A large beautiful tree, sometimes 40—50 feet high, 2—3 feet in diameter, with long opposite expanding branches. *Leaves* generally by threes, large, acuminate, glabrous on the upper surface, downy underneath, 8—12 inches long, with a breadth nearly equal; petioles 5—8 inches long: flowers in pyramidal terminal panicles; branches and flowers generally by threes; pedicels 6—10 lines long, with small, linear-lanceolate leaves near the middle. *Calyx* 1 leaved, 2 parted, segments obovate, concave, mucronate, persistent. *Corolla* unequally 5 parted, the lobes crenulate and wavering; tube ventricose, variegated with yellow and purple; the flower white without. *Filaments* 2 fertile, incurved, scarcely longer than the tube of the corolla. *Anthers* reflexed, 2 lobed, lobes very distinct; 2—3 sterile filaments, very short. *Germ* superior, ovate, small. *Style* as long as the stamens. *Stigma* bilamellate. *Silique* 12—15 inches long, with a transverse dissepiment. *Seeds* flat, winged, with a small tuft of hair at the summit.

The tree when young and vigorous, is very beautiful; but when it begins to decay, its long branches give it a naked appearance. Its wood is said to be durable. The largest trees I have ever seen, grow in in a sandy soil near the Euhaw creek.

Grows in the middle and upper country of Carolina and Georgia, along the margin of rivers.

Flowers April—May.

LYCOPUS. GEN. PL. 44.

Corolla 4-fida, lacinia unica emarginata. *Stamina* distantia. *Semina* 4, retusa.	*Corolla* 4 cleft, one segment emarginate. *Stamens* distant. *Seeds* 4, retuse.

1. VIRGINICUS.

L. foliis lato-lanceolatis, serratis, basi attenuatis integerrimisque; calyce seminibus breviore, acuto. E.	Leaves broad, lanceolate, serrate, tapering and entire at base; calyx shorter than the seed, acute.

Sp. pl. 1. p. 121. Walt. p. 64. Mich. 1. p. 14. Pursh, 1. p. 16.

Root perennial, fibrous. *Stem* herbaceous, erect, 1—2 feet high, square, furrowed, pubescent, branched. *Leaves* opposite, sessile, acuminate, a little rough, dotted underneath. *Flowers* crowded in sessile axillary whorls; 2 very minute leaves at the base of each flower. *Calyx* one leaved, 4 cleft, shorter than the seed, persistent. *Corolla* white, twice as long as the calyx, the emarginate segment breader than the rest. *Filaments* 2, as long as the corolla, inserted into its tube near the upper segment. *Anthers* erect, 2 lobed, pale purple. *Germ*

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superior, square, slightly furrowed. *Style* as long as the corolla. *Stigma* 2 cleft, segments acute *Pericarp*, none but the persistent calyx.

Grows in wet soils, ditches, &c. Common.

Flowers August—October. *Virginian Lycopus.*

2. ANGUSTIFOLIUS. E.

L. foliis angusto-lanceolatis, serratis ; calyce 5-fido, laciniis acuminatis, seminibus longioribus. E.

Leaves narrow, lanceolate, serrate ; calyx 5 cleft, with the segments acuminate, longer than the seed.

L. europæus ? Walt. p. 64.

Perennial. *Stem* erect, square, glabrous, 2—3 feet high. *Leaves* opposite, lanceolate, narrow, with a long acumination, remotely serrate, the serratures growing deeper on the lower leaves. *Flowers* in sessile whorls. Segments of the *calyx* acuminate, rigid, much longer than the seed.

Grows with the preceding, in damp places, ditches, &c.

Flowers August—September. *Narrow-leaved Lycopus.*

3. EXALTATUS.

L. foliis basi pinnatifida, serratis, laciniis integerrimis subserratisque ; calycibus spinescentibus. Pursh, 2. p. 727.

Leaves at base pinnatifid, serrate, with the segments intire and slightly serrate ; calyx spinous.

Sp. pl. 1. p. 121.

Grows in Carolina and Virginia, in low shady woods. Rare. Pursh.

Flowers August—September.

I have a specimen from the Northern States agreeing exactly with the description of Pursh. It resembles the preceding much more than the succeeding species ; the leaves are acutely divided, and the segments of the calyx more dictinctly spinescent than in our species.

4. SINUATUS. E.

L. repens ; foliis profunde sinuatis incisisque, subrugosis ; calyce quinquefido, laciniis acutissimis. E.

Creeping ; leaves deeply sinuate and incised, somewhat rugose ; calyx 5 cleft, with the segments very acute.

Root creeping. *Stem* erect, 4—6 feet high, square, deeply furrowed, glabrous. *Leaves* opposite, deeply sinuate, almost pinnatifid, with the segments of the lower leaves, toothed and incised. Leaves when vigorous 5—6 inches long, segments nearly 2. *Flowers* in sessile whorls. Segments of the *calyx* very acute, rigid, longer than the seeds.

Grows in the swamps, on the Ogechee river, Vall'Ombrosa.
Flowers August—September. *Scallop-leaved Lycopus.*

CUNILA. GEN. PL. 46.

Calyx cylindricus, 5-dentatus, fauce villosus. *Corolla* ringens, labio superiore erecto, plano, emarginato. *Stamina* 2 sterilia.

Calyx cylindrical, 5 toothed, villous at the throat. *Corolla* ringent, with the upper lip erect, flat, emarginate. *Stamens* 2, sterile.

1. MARIANA.

C. foliis ovatis, serratis; corymbis terminalibus, dichotomis. Sp. pl. 1. p. 122.

Leaves ovate, serrate; corymbs terminal, dichotomous.

Mich. 1. p. 13 Pursh, 2. p. 406.

Root perennial. *Stem* 1—2 feet high, 4 angled, glabrous, much branched, purple. *Leaves* opposite, nearly sessile, ovate, acute, rounded, almost cordate at base, acutely serrate, glabrous on the upper surface, hairy underneath. *Flowers* in small axillary and terminal dichotomous corymbs, with a flower in each division. *Calyx* 10 nerved, 5 becoming prominent teeth; villous in the throat. *Corolla* white. Fertile *Stamens* and *Style* twice as long as the corolla *Stigma* unequally 2 cleft.

Grows in the mountains of Carolina. Dr. Macbride.
Flowers August—September. *Maryland Cunila.*
Mountain Dittany.

An infusion of the leaves of this plant is often given in fevers, with the view to promote perspiration. It is a pleasant and refreshing drink.

HEDEOMA. PERSOON, SYN. 2. p. 131.

Calyx bilabiatus, basi gibbus. *Corolla* ringens. *Stamina* 2 sterilia.

Calyx bilabiate, gibbous at base. *Corolla* ringent. *Stamens* 2 sterile.

1. PULEGIOIDES.

H. foliis oblongis, serratis ; pedunculis axillaribus, multifloris. Pers.	Leaves oblong, serrate; peduncles axillary, many flowered.

Pursh, 2. p. 414.
Cunila pulegioides, Sp. pl. 1. 122.

Annual, (Mich.) *Stem* 12—18 inches high, 4 angled, pubescent. *Leaves* opposite, lanceolate, tapering at base to a petiole, sparingly toothed, strongly veined, pubescent. *Flowers* verticillate, on short peduncles. *Calyx* nerved, hairy, 2 lipped ; upper lip composed of 2 subulate, ciliate, segments ; the lower lip of 3 larger, lanceolate, and without a fringe

Grows in the upper country and mountains. Dr. Macbride.
Flowers June—September. *Wild Pennyroyal.*

MONARDA. GEN. PL. 48.

Corolla inæqualis, labio superiore lineari, filamenta involvente. *Semina* 4.	*Corolla* unequal, upper lip linear, inclosing the filaments. *Seeds* 4.

1. CLINOPODIA.

M. glabra; capitulis terminalibus ; bracteis exterioribus lato-ovatis, acutis, integerrimis ; corollis pubescentibus, tenuibus ; foliis ovato-oblongis, acuminatis, serratis, pilosiusculis.	Glabrous ; heads simple, terminal ; the exterior bracteas ovate, wide, acute, very entire ; corolla pubescent, slender ; leaves, ovate-oblong, acuminate, serrate, hairy.

Pursh, 1. p. 17. Sp. pl. 1. p. 125.
(exclus, syn. Gronovii.)

Stem obtusely angled, glabrous. Heads small. *Bractea* nearly glabrous. *Calyx* short, ciliate. *Corolla* yellow, with purple specks. Pursh.

Grows in the mountains of Carolina in dry soils. Pursh.
Flowers July—September.

2. Gracilis. Pursh.

M. glaberrima; capitulis lateralibus terminalibusque; bracteis exterioribus linearibus, ciliatis; corollis brevibus; foliis lineari-lanceolatis, acuminatis, serratis. Pursh, 1. p. 17.	Very glabrous; heads lateral and terminal; the exterior bracteas linear, ciliate; corollas short; leaves linear lanceolate, serrate.

Stem obtusely-angled. *Heads* small, naked. *Calyx* pubescent, ciliate. *Corolla* very slender, glabrous, yellowish white. Pursh.

Found in the mountains of Carolina by Mr. Lyon.

Flowers—

3. Mollis.

M. cano-pubescentibus; capitulis simplicibus; bracteis exterioribus cordato-ovatis,acutis; corollis hirsutis; foliis oblongis, attenuatis, basi rotundatis, serratis. Pursh, 1. p. 18.	Pubescent, hoary; heads simple; the exterior bracteas cordate-ovate, acute; corolla hairy; leaves oblong, tapering, rounded at the base, serrate.

M. fistulosa, *Var. b.* Sp. pl. 1. p. 124.

Stem acutely angled, hirsute. *Calyx* short with a thick beard at the throat. *Corolla* pale purple, with a very long beard at the point of the helmet. Pursh.

Grows in the mountains of Carolina. Pursh.

4. Fistulosa.

M. villis sparsis hirsuta; capitulis simplicibus proliferisque, foliosis; corollis hirsutis; foliis ovatis, acuminatis, serratis; petiolis longis, ciliatis. Pursh, 1. p. 18.	Hirsute with scattered hairs; heads simple, proliferous, leafy; corolla hirsute; leaves ovate, acuminate, serrrate; petioles long, ciliate.

Sp. pl. 1. p. 124.

Stem erect, 2—3 feet high, obtusely 4 angled, glabrous, hollow. *Leaves* hairy, rounded at the base and slightly cordate. *Calyx* long, tubular, terminating in 5 acute teeth. *Corolla* twice as long as the calyx, pale flesh colour.

Grows in the mountains of Carolina.
Flowers August—September.

5. PUNCTATA.

M. glabriuscula; floribus verticillatis; bracteis lanceolatis, coloratis, verticillo longioribus; foliis lanceolatis, remote serratis. Pursh, 1. p. 18.

Nearly glabrous; flowers verticillate; bracteas lanceolate, coloured, longer than the whorl; leaves lanceolate, remotely serrate.

Sp. pl. 1. p. 126.
Walt. p. 64. M. lutea, Mich. 1. p. 16.

Stem 3 feet high, obtusely 4 angled, pubescent. *Leaves* oblong, tapering at base to a short petiole. *Flowers* sessile. *Corolla* hairy, yellow, dotted with brown; the upper lip slightly vaulted, containing the filaments; the lower shorter, 3 cleft.

Grows in light soils; very common in the lower country of Carolina.
Flowers Aug.—Oct. *Dotted Monarda. Origanum* falsely, and corruptly *Rignum.*

The root of this plant has some reputation in family practice as an emmenagogue. It is given warm, in the form of infusion.

6 CILIATA.

M. hirsuta; floribus verticillatis; bracteis ovatis, glabris, ciliatis, calyce æquantibus; foliis ovato-oblongis, attenuatis, serratis. Pursh, 1. p. 19.

Hirsute; flowers verticillate; bracteas ovate, glabrous, ciliate, as long as the calyx; leaves ovate oblong, tapering, serrate.

Sp. pl. 1. p. 126.
Walt. p. 64.
Mich. 1. p. 16.

Stem acutely 4 angled. *Leaves* nearly sessile, finely serrate, pubescent. *Bracteas* strongly veined. *Corolla* small, blue, and with the *calyx* very hairy.

Grows in the mountains of Carolina and Georgia. Sent from Athens by Mr. Green.
Flowers July—September.

SALVIA. Gen. pl. 50

Corolla inæqualis. *Filamenta* transverse pedicello affixa.	*Corolla* unequal. *Filaments* fixed transversely on a foot stalk.

1. Lyrata.

S. foliis radicalibus lyratis, dentatis; corollarum galea brevissima; caule sub-aphyllo, retrorsum piloso. Vahl. 1. p. 257.	Radical leaves lyrate, dentate; upper lip of the corolla very short; Stem nearly leafless, retrorsely pubescent.

Sp. pl. 1. p. 128.
Walt. p. 65. Mich. 1. p. 14.
Clayt. p. 6. No. 19 and 391.

Root perennial. *Stem* herbaceous, 2—3 feet high, square, furrowed, hirsute, branched near the summit. *Leaves* opposite; the radical leaves crowded, lyrate and pinnatifid, obtuse, strongly veined, hirsute, dotted, irregularly toothed, spotted with purple; the upper leaves lanceolate, slightly toothed. *Flowers* in 6-flowered-whorls. *Calyx* one leaved, bilabiate, angled, hirsute, persistent; upper lip broad, truncate, armed with 3 sharp teeth; the lower longer, 2 cleft, segments acute. *Corolla* bilabiate, hairy on the outside, blue; tube twice as long as the calyx; upper lip oval, emarginate; the lower longer 3 cleft; the lateral segments obtuse; the middle one larger, emarginate, spotted at base. *Filaments* 2, inserted near the summit of the tube of the corolla, filiform, bent, bearing a curved transverse pedicel with an anther at each end. *Anthers* oblong, 2 lobed, blue. (Does not one anther approach the stigma and burst, then recede and allow the other to come in contact?) *Germ* superior, obtuse, furrowed. *Style* filiform, longer than the corolla, unequally 2 cleft. *Stigma* simple, acute. *Pericarp* 0, but the persistent calyx. *Seeds* 4, obovate, angled on the inner side.

Grows in shaded places. Very common.

Flowers March—September. *Lyre-leaved Sage. Cancer-weed.*

The fresh radical leaves of this plant when bruised and applied to warts generally destroy them. It is necessary to continue the application for a day or two and to renew it every twelve hours. The radical leaves of the Hieracium Gronovii are employed for the same purpose, and it is said with equal effect. Before their bloom, these plants are often mistaken for each other by persons unskilled in botany, the leaves of each being hairy and purplish underneath.

2. Claytoni. E.

S. foliis cordato-ovatis, sinuatis, dentatis, rugosis; calycis dentibus labii superioris conniventibus. E.	Leaves cordate-ovate, sinuate, toothed, rugose; teeth of the upper lip of the calyx connivent.

Clayton, p. 5. No. 272.
Salvia Verbenaca, Muhl. Cat.

Root thick, almost tuberous, perennial. *Stem* herbaceous, erect, nearly a foot high. *Leaves* ovate and cordate, lanceolate, pinnatifid, the segments toothed, rugose, pubescent on the veins and margins. *Flowers* in 6 flowered whorls. *Bracteas?* 2, at the base of each whorl, cordate-ovate, acuminate, toothed, pubescent. *Calyx* somewhat campanulate, bilabiate, hispid along the veins and margin; upper lip 3 toothed, teeth connivent; the lower lip longer, 2 cleft, the segments acuminate, mucronate. Transverse *filament*, bearing an anther at each extremity. *Anthers* nearly black.

This plant is probably not distinct from the S. Verbenaca of Europe, but it is certainly very different from the S. lyrata; besides the differences noticed in the specific character, its leaves are more rugose and less hirsute, more rigid; and its corolla comparatively much smaller.

Grows in the dry sandy pastures around Beaufort, abundantly.

Flowers through the whole summer. *Vervain-leaved Sage.*

3. Urticifolia.

S. foliis ovato-oblongis, duplicato-serratis; calycibus tridentatis, lacinia summa tridentata. Sp. pl. 1. p. 131.	Leaves ovate oblong, doubly serrate; calyx three toothed, upper segment three toothed.

Mich. 1 p. 15.
Clayt, p. 5. No. 272.

Leaves ovate, irregularly dentate, acuminate at the summit, abruptly narrowed at base, very pubescent. (Spike naked, whorls remote, calyx downy, 3 cleft, segments short. Mich.)

Grows in the upper districts of Georgia and Carolina. Very common.

Flowers— *Nettle-leaved Sage.*

4. Coccinea.

S. foliis cordatis, acutis, tomentosis, serratis; co-	Leaves cordate, acute, tomentose, serrate; co-

rollis calyce duplo longioribus, angustioribus. Sp. pl. 1. p. 141.	rolla twice as long as the calyx, and narrower.

Mich. 1. p. 15.

Root perennial. *Stem* herbaceous. erect, much branched, 1—2 feet high. *Leaves* sometimes obtuse at base, hairy underneath, on petioles 2—3 inches long. *Flowers* in 6 flowered whorls, in reality composed of 2 opposite, 3 flowered peduncles. Segments of the *calyx* acute, the upper one a little reflexed. *Corolla* bright scarlet; the upper lip erect, short, emarginate; the lower lip larger, 3 lobed; the middle lobe larger, 2 cleft. Transverse *filament* scarlet, bearing an anther only at one extremity.

Grows on the southern islands of Georgia. In the streets of Beaufort, common.

Flowers through the whole summer. *Scarlet Sage.*

5. AZUREA. La Marck.

S. foliis longo-linearibus, lævibus; calyce pubente, brevissime trifido.	Leaves long, linear, smooth; calyx pubescent, 3 cleft, segments very short.

La Marck, Encyc. 6. p. 625.
S. angustifola, Mich. 1. p. 15.
S. cœlestina? Bartram.
S. acuminata, Muhl. Cat.
S. Mexicana? Walt. p. 65.

Root perennial. *Stem* 6 feet high, much branched. Upper *leaves* linear, very entire; (lower leaves lanceolate, serrate. Mich.) *Flowers* large, azure, very beautiful. (Teeth of the *calyx* rounded, upper one nearly entire. Mich.)

I have never seen this plant growing. I have received, however, many specimens of it, and in them the leaves have been invariably linear, entire, smooth, not at all acuminate.

Since writing the above I have been informed by Dr. Baldwin that this species varies with the corolla blue, and white, with the lower leaves, and sometimes all the leaves, lanceolate, pubescent. This last variety I had found on Hilton Head, and in Catham county, Georgia, and considered it as a distinct species.

Grows in the upper country of Georgia and Carolina. Mr. Lyon.

Flowers through the summer. *Narrow leaved Sage.*

6. OBOVATA. E.

S. foliis majusculis, obovatis, dentatis, pubes-	Leaves large, obovate, toothed, pubescent; flow-

centibus ; floribus in verticillis 6-floris. E.

ers in 6 flowered whorls.

Stem 18 inches high, slightly angled. *Leaves* 6½ inches long, 4½ wide, the upper pair approximate as if in a whorl.

Grows near the Oakmulgee river, Georgia. From the specimens of Mr. Lyon.

Flowers June—July. *Downy-leaved Sage.*

Mr. John Lyon, an indefatigable and ingenious botanist, passed the summer of 1803 in the territory of the Creeks, and in the western parts of Georgia. In the following winter he had the kindness to leave his specimens in my hands for two or three months, for examination, while he made an excursion into Florida. From that collection I described many plants, and shall introduce a few of them in the course of this work. I must however remark, that the specimens were not in very good order; that they were generally solitary, so that I could not dissect them ; and that my knowledge of the plants of this country was at that time very limited.

COLLINSONIA. Gen. pl. 51.

Corolla inæqualis ; labio inferiore multifido, capillari. *Stamina* 2—4. *Semina* 4, 3 plerumque abortientia.

Corolla unequal ; lower lip many cleft, segments capillary. *Stamens* 2—4. *Seed* 4, 3 generally abortive.

1. Canadensis.

C. foliis lato-cordato-ovatis, glabris ; calycis dentibus brevi-subulatis ; panicula terminali composita. Pursh, 1. p. 20.

Leaves broad, cordate-ovate, glabrous ; teeth of the calyx short, subulate ; the panicle terminal, compound.

Sp. pl. 1. p. 152. Mich. 1. p. 17.

(*Leaves* large, cordate-ovate, Mich.) *Leaves* very obtuse at base rather than cordate, toothed, acuminate. *Flowers* large, yellow. Varies, according to the observations of Pursh ;

a. With leaves cordate, the upper ones very entire.

b. With leaves ovate, tapering at base, all serrate.

Grows in the mountains of Carolina, Dr. Macbride.

Flowers September. *Canadian Collinsonia.*

2. **Scabra.**

C. foliis minoribus ovatis, subcordatis, pilosiusculis; calycis dentibus brevi-subulatis; panicula terminali simpliciuscula; caule piloso, scabro. Pursh, 1. p. 20.

Leaves small, ovate, slightly cordate and hairy; teeth of the calyx short, subulate; panicle terminal, simple; stem hairy, rough.

Sp. pl. 1. p. 152.
C. præcox, Walt. p. 65.
C. purpurea, Oemler.

Root perennial, *Stem* herbaceous, 2—3 feet high, square, furrowed, glabrous near the root, above pubescent, with glandular capitate hair. *Leaves* opposite, very obtuse, sometimes a little cordate, slightly acuminate, rugose; slightly scabrous on the upper surface; smooth and dotted on the under; 2—2½ inches long, 1—2 broad; petioles nearly an inch long. *Flowers* in simple, terminal, naked racemes. *Calyx* pubescent, persistent, the border 4 cleft, half as long as the tube; segments lanceolate, the 2 upper ones broadest. *Corolla*, the tube cylindrical, pubescent, yellowish; the upper lip 3? cleft, segments obtuse, equal, yellowish, spotted with purple; the lower lip longer, dilated, fimbriate, purple. *Filaments* 2, much longer than the corolla. *Anthers* incumbent, 2 lobed, purple. *Germs* 4? fixed in a torus, and furnished with an ovate gland on one side. *Style* filiform, as long as the stamens, 2 cleft. *Stigma* simple, acute, sometimes unequal. *Seeds* oval, glabrous, angled on one side.

Grows near Savannah. Found by Mr. Oemler, and cultivated by him as a new species. Resembles too nearly the C. scabriuscula of the Hort. Kew. to be separated from it. St. John's, Dr. Macbride.

Flowers September—November. *Rough-leaved Collinsonia.*

3. **Ovalis.** Pursh.

C. foliis oblongo-ovalibus, utrinque subacutis, glabris; petiolis longissimis; calycis dentibus brevissimis; panicula terminali, simplici, nudiuscula; caule glabro. Pursh, 1. p. 21.

Leaves oblong-oval, acute at each end, glabrous; petioles very long; teeth of the calyx very short; panicle terminal, simple, naked; stem glabrous.

Flowers very small, yellow.
Found in Carolina by Mr. Fraser.
Flowers August.

4. **Tuberosa.** Mich.

C. foliis subrhombei-ovalibus, utrinque acutis, glabris; calycis dentibus setaceis, tubo longioribus; panicula composita, foliosa; caule ramoso, subvilloso. Pursh, 1. p. 21.	Leaves somewhat rhomboid-oval, acute at each end, glabrous; teeth of the calyx setaceous, longer than the tube; panicle compound, leafy; stem branching, somewhat hairy.

Mich. 1. p. 17.
C. serotina, Walt. p. 65.

Stem 3—4 feet high. *Leaves* large, rhomboidal or oval, with large and somewhat hooked serratures, thinly sprinkled with hair, on long footsalks, excepting the upper pair, which, as described by Walter, are ovate, nearly heart-shaped and sessile.

Grows in the middle and upper country of Carolina, in fertile soils.
Flowers September.

5. **Punctata.**

C. foliis ovato-lanceolatis, acuminatis, basi acutis, subtus pubescentibus punctatisque; panicula composita. E.	Leaves ovate-lanceolate, acuminate, acute at base, pubescent underneath, and dotted; panicle compound.

Root tuberous, perennial. *Stem* herbaceous, erect, 2—6 feet high, scabrous, pubescent, branched near the summit. *Leaves* opposite, large, dentate, scabrous, pubescent on the upper surface, almost tomentose on the lower, acute, sometimes acuminate at each end; upper pair ovate, nearly sessile. *Flowers* in paniculate racemes. *Peduncles*, *calyx*, *corolla*, and under surface of the *leaves* sprinkled with resinous atoms. Upper lip of the *calyx* 3 cleft; the lower lip longer, 2 cleft, segments all acute. *Corolla* yellowish, pubescent without, hairy within; the upper segments equal, short, obtuse; the lower one longer, fimbriate. *Filaments* 4; the 2 upper ones short, capitate, sterile; the 2 lower filiform, twice as long as the corolla. *Anthers* oblong, furrowed. *Seeds* globose, shining; 1 or 2 coming to maturity.

Grows in rich loose soils. Frequent.
Flowers September—October.

6. **Verticillata.** Baldwin.

C. foliis verticillatis, ovalibus, acuminatis. B.	Leaves verticillate, oval and acuminate.

Stem simple, herbaceous, erect, commonly about one foot high. *Flowers* in a terminal verticillate raceme. B.

Var. b. purpurascens; with flowers of a purplish colour, and panicle short

Var. a. grows near Milledgeville, between the Oconee and Oakmulgee rivers, Georgia; *var. b.* near Crooked river bridge, Camden county, Georgia.

Flowers May. *Verticillate-leaved Collinsonia.*

7. **ANISATA.** Sims.

C. foliis ovatis, cordatis, rugosis, glabriusculis, nervis subtus pubescentibus; calycis dentibus linearibus, tubum subæquantibus; panicula composita, foliosa, pubescente; floribus tetrandris; caule ramoso, pubescente. Pursh, 1. p. 21.	Leaves ovate, cordate, rugose, glabrous, with the nerves underneath pubescent; teeth of the calyx linear, nearly as long as the tube; panicle compound, leafy, pubescent; flowers tetrandrous; stem branching, pubescent.

Bot. Mag. No. 1213.

Flowers large, pale yellow.

Found in the mountains of Georgia, by Mr. Lyon.

Flowers July—September. *Anise-scented Collinsonia.*

DIANDRIA DIGYNIA.

ANTHOXANTHUM. GEN. PL. 58.

Calyx, gluma bivalvis, uniflora. *Corolla*, gluma bivalvis, aristata. *Semen* 1.	*Calyx*, glume 2 valved, one flowered. *Corolla*, glume 2 valved, awned. *Seed* 1.

1. **ODORATUM.**

A. spica oblonga, ovata; flosculis sub-pedunculatis, arista longioribus. Sp. pl. 1. p. 156.	Spike oblong, ovate; flowers on short peduncles, longer than the awn.

Mich. 1. p. 39.

Root fibrous, perennial. *Stem* erect, assurgent, 1 foot high, a little scabrous near the summit. *Leaves* linear, acute, slightly furrowed, flat, hairy, a little scabrous at base, ending in a striated sheath shorter than the joints, hairy at the throat. *Stipule* membranaceous, glabrous, ovate, 2—3 lines long. *Flowers* in an appressed terminal panicle, crowded, resembling a cylindrical spike, *Calyx*, exterior valve ovate, acute, membranaceous. the midrib green, hairy; the interior valve similar, but twice as long, obscurely 3 nerved. *Corolla*, valves equal, shorter than the outer valve of the calyx, truncate, villous: with an awn at the base of each valve; awn of the outer valve as long as the calyx, a little geniculate in the middle; awn of the inner straight and as long as the valve itself. *Filaments* 2, longer than the calyx, capillary, expanding through the sides of the glumes. *Anthers* 2 lobed, emarginate at each end, white. *Germ* lanceolate, acute. *Styles* 2, filiform, longer than the corolla. *Stigmas* feathered, white. *Seed* one, oblong.

Probably imported, now common. Found 3 miles from Savannah, on the Ogechee road, and near Charleston.

Flowers May—June.

ERIANTHUS. Mich. 1. p. 54.

Calyx bivalvis, subæqualis, basi villosissima. *Corolla* bivalvis, inæqualis, gluma interiore juxta apicem longissime aristata.	*Calyx* 2 valved, the valves nearly equal, very villous at base. *Corolla* 2 valved, unequal, the inner glume bearing a very long awn near its summit.

1. Alopecuroides.

E. villis involucrantibus calyce multo longioribus; aristis rectis. E.	Hair like involucrum, much longer than the calyx; awns straight.

E. Saccharoides, Mich. 1. p. 55.
Anthoxanthum giganteum, Walt. p.
Andropogon alopecuroides, Sp. pl. 4. p. 911.
Saccharum giganteum, Pursh, 1. p. 73.

Root fibrous, perennial, forming large tufts. *Stem* herbaceous, erect 6—10 feet high, a little scabrous, near the panicle very villous. *Leaves* 2—3 feet long, 6—8 lines wide, acute, scarcely channelled, striate, serrulate, scabrous on the upper surface, hairy on the under, at base terminating in a scabrous sheath shorter than the joints, very villous at the throat. *Stipule* membranaceous, ciliate. *Flowers* in a crowded, very villous panicle; 2—3 spikelets from each bud or eye; ultimate buds two flowered, 1 sitting, 1 pedunculate, both androgynous. *Calyx*, exterior valve lanceolate, slightly acuminate, the back flattened, the angles near the summit serrulate, summit bifid; interior valve shorter, compressed, very acute, the back serrulate, the hair at the base about twice as long as the calyx. *Corolla* unequal, shorter than the calyx, tinged with purple; the exterior valve larger, very acute, membranaceous; the interior much smaller, the point terminating in a scabrous awn 4—6 times as long as the calyx. *Filaments* 2, longer than the calyx, capillary. *Anthers* bright yellow, *Germ* oblong. *Styles* 2, shorter than the calyx. *Stigmas* feathered, purple.

Grows in wet ground and in shallow stagnant water.
Flowers September—October. *Fox-tail Erianthus.*

2. BREVIBARBIS. Mich.

E. panicula sub-patente; villis involucrantibus calyce brevioribus; aristis rectis. E.	Panicle rather spreading; hair like involucrum shorter than the calyx; awns straight.

Mich. 1. p. 55.
Saccharum brevibarbe, Pursh, 1. p. 73.

Stem 3—5 feet high, near the panicle scabrous and a little hairy, upper joints bearded. *Leaves* lanceolate, 1—1½ feet long, 3—5 lines broad, somewhat scabrous, hairy at base; sheath shorter than the joints, glabrous, the throat contracted, hairy. *Stipule* membranaceous, lacerate. *Flowers* in a crowded appressed panicle, 1—2 spikelets from each bud. *Calyx*, valves nearly equal, hairy along the margins, nerved, dark purple, the nerves frequently spinous. *Corolla*, valves purplish, edges of the valves hairy; the interior valve terminating in a scabrous awn 2 or 3 times as long as the calyx. *Anthers* purple. *Stigmas* feathered purple.

Grows in dry and damp ground (not inundated) indiscriminately.
Flowers September—October. *Short bearded Erianthus.*

Dr. Baldwin remarks that the nectary in this genus is composed of two very small, oblong, bidentate scales, with a fine bristle between the teeth, situated at the base of the germ, and connected by a thin membranous valvule; valvules lanceolate, twice the length of the nectaries.

3. STRICTUS. Baldwin.

E. involucro brevissimo vel 0; panicula arcte appressa, ramulis remotis; pedunculis bifloris; aristis rectis, calyce duplo longioribus. B.	Involucrum very short or 0; panicle closely appressed, the branches remote; peduncles two flowered; awns straight, twice as long as the calyx.

Stem 4—6 feet high, with the joints all smooth. *Leaves* very long, scabrous along the edges. *Panicle* from one to near two feet in length. *Spikes* scattered, very closely appressed; spikelets uniformly 2 flowered. *Involucrum* composed of a few scattered hairs about one third the length of the calyx, sometimes entirely wanting. Nerves of the *calyx* spinous. *Anthers, stigmas, nectaries* and their appendage purple. B.

Grows near Savannah.

Flowers August—September. *Close-panicled Erianthus.*

4. CONTORTUS.

E. villis involucrantibus calycem æquantibus; valva interiore corollæ auriculata; arista spiraliter contorta. Baldwin.	Hairy involucrum as long as the calyx; interior valve of the corolla auriculated; awn spirally contorted.

Stem erect, terete, somewhat scabrous near the summit, bearded at the joints. *Leaves* long, linear lanceolate, scabrous along the margins, bearded at the throat. *Panicle* closely appressed. *Flowers* 2 at each joint or bud of the branches, one sessile, the other on a pedicel. Valves of the *calyx* nearly equal; the exterior acute; the interior a little shorter, slightly 2 cleft; both serrulate and having a few long hairs scattered along the margin. Exterior valve of the *corolla* membranous, acute, shorter than the calyx; the interior still shorter, awned; the awn is composed by the junction of the two lateral nerves of the valve, in this species, they meet just above the middle of the valve, leaving the summit deeply two cleft; awn spiral and contorted near its base. *Seed* oblong, slightly obovate.

This species was first brought to my view by specimens sent me from Savannah by Dr. Baldwin; I have since found it on Charleston Neck growing in damp soils.

Flowers October. *Spiral-awned Erianthus.*

The three last species were certainly united in the E. brevibarbis of Michaux, they appear, however, to be sufficiently distinct.

CLASS III.

TRIANDRIA.

MONOGYNIA.

24 BOERHAAVIA.
25. FEDIA
26 TRIPTERELLA.
27 IXIA.
28. IRIS.
29 LACHNANTHES.
30. COMMELINA.
31. SYENA
32 STIPULICIDA.
33. XYRIS.
34. FUIRENA.
35 KYLLINGIA.
36. SCHOENUS.
37 RHYNCHOSPORA.
38. CYPERUS
39 DULICHIUM.
40. MARISCUS.
41. SCIRPUS.
42. DICHRHOMENA.
43 TRICHOPHORUM.
44 ERIOPHORUM.
45. CENCHRUS.
46 SPARTINA.
47. ARUNDINARIA.

DIGYNIA

48 MUHLENBERGIA.
49 TRICHODIUM.
50 LEERSIA.
51. PHALARIS.
52. AULAXANTHUS.
53 MILIUM.
54. PASPALUM.
55. CERESIA.
56 PHLEUM.
57 ALOPECURUS.
58 PANICUM.
59. DIGITARIA.
60 AGROSTIS.
61. STIPA.
62. ARISTIDA.
63. ANDROPOGON.
64. AIRA.
65 MELICA.
66. DACTYLIS.
67. POA.
68 BRIZA.
69. UNIOLA.
70 FESTUCA.
71 BROMUS.
72 AVENA.
73. ELEUSINE.
74 MONOCERA.
75 CHLORIS.
76. ROTTBOELLIA.
77. ELYMUS.

TRIGYNIA.

78. PROSERPINACA.
79 POLYCARPON.
80 MOLLUGO.
81. LECHEA.

BOERHAAVIA. Gen. pl. 13.

Calyx margo integerrimus. *Corolla* 1-petala, campanulata, plicata. *Semen* 1, nudum, inferum.	*Calyx* a margin. entire. *Corolla* 1 petalled, campanulate, plaited. *Seed* one, naked, below.

1. Erecta.

B. caule tereti, trichotomo, inferne subscabro, superne glabro ; floribus, corymboso paniculatis.	Stem columnar, trichotomous, roughened below, smooth above ; flowers in corymbose panicles.

Sp. pl. 1. p. 19. Pursh, 1. p. 31.

Root annual. *Stem* jointed, when mature scarcely viscid. *Leaves* opposite, ovate, sometimes cordate, undulate, the upper surface of the veins and margins purple, beneath a little glaucous; peduncles very short, smooth. *Calyx* a minute glandular ring, surrounding the base of the corolla, scarcely visible. *Corolla* seated on the summit of the germ, white, tinged with purple. *Filaments* generally 2, sometimes 3 or more, longer than the corolla, attached to its base. *Anthers* bilocular. *Germ* inferior, clavate. *Style* as long as the corolla. *Stigma* capitate. *Capsule?* inversely conic, 5 furrowed. *Seed* one, oblong, bipartible, covered with a furrowed integument, which adheres to the capsule at each extremity.

Grows in dry and sandy soils. Around Beaufort, common. Perhaps imported, now completely naturalized.

Flowers June—September.

FEDIA. Gært.

Calyx superus, 3—5 dentatus. *Corolla* 5-partita, regularis et irregularis. *Nux?* 2—3 locularis.	*Calyx* superior, 3—5 toothed. *Corolla* 5 parted, regular and irregular. *Fruit* a nut? 2—3 celled.

1. Radiata.

F. caule dichotomo; foliis oblongis, obtusis; capitulis involucratis. Sp. pl. 1. p. 184.	Stem dichotomous; leaves oblong, obtuse; flowers in heads with an involucrum at the base.

Mich. 1. p. 18. Pursh, 1. p. 28.
Valeriana locusta, Walt. p. 66.

Root annual. *Stem* erect and ascending, columnar, pubescent, nearly 1 foot high. *Leaves* opposite, sessile, entire, oblong, a little spathulate. *Flowers* in terminal heads. (*Fruit* pubescent, somewhat 4 angled, naked at the summit, Mich.)

Grows in St. Stephens—Dr. Macbride. At Mr. Middleton's at Ashley river. Common at the Coweta towns, on the Chatahouchie, Dr. Baldwin.

Flowers February—March.

TRIPTERELLA. Mich.

Corolla sexpartita, laciniis alternis minoribus,	*Corolla* six parted, the alternate segments small,

conniventibus. *Capsula* 3-angularis, 3-locularis.	connivent. *Capsule* 3 angled, 3 celled.

1. CAPITATA. MICH.

T. floribus in capitulo terminali ; germine angulis subaptero. E.	Flowers in a terminal head ; angles of the germ scarcely winged.

Mich. 1. p. 19. Pursh, 1. p. 28.
Anon. capitat. Walt. p. 69.

Root fibrous, annual ? *Stem* erect, setaceous, 6—8 inches high, glabrous. *Leaves* alternate, subulate, very minute. *Corolla* white, dilated at base, clothing and adhering to the capsule.

Grows in damp soils in the middle districts of South-Carolina. Dr. Macbride—Mr. Herbemont.

Flowers September. *Cluster-flowered Tripterella.*

2. CŒRULEA.

T. floribus paucis (2—5) in racemo terminali ; germine angulis alato.	Flowers few, in a terminal raceme ; angles of the germ distinctly winged.

Burmania biflora, Sp. pl. 2. p. 16. Pursh, 1. p. 217.
Clayton, 49. No. 248.

Root fibrous. annual ? *Stem* herbaceous, erect, setaceous, 2—4 inches high. *Leaves* minute, subulate. *Bracteas ?* 2, unequal, small, lanceolate, concave, the lower one longer. *Calyx* 0. *Corolla* one petalled, 6 parted, bright azure ; base clothing the germ ; tube contracted ; border six parted ; 3 segments apparently exterior, large, acute, erect, coriaceous in the centre, membranaceous along the margin ; the 3 smaller segments linear, coriaceous, inflexed, connivent. *Filaments* 3, very short, thick, inserted into the tube of the corolla. *Anthers* 2 lobed, yellow. *Germ* inferior ? oblong, 3 sided, angles prominently winged ; wings and germ azure. *Style* filiform, rather thick, as long as the stamens, 5 cleft. *Stigmas* 3, globose, apparently cleft on the sides. *Capsule* 3 celled, 3 valved, winged. *Seeds* many in each cell, oval, attached to a central receptacle.

Grows in wet ground among Sphagnum palustre, &c. near Savannah, Mr. Oemler ; also 1 mile from Bee's Creek, along the road to Purysburgh.

Flowers October—November. *Blue Tripterella.*

I have no hesitation in referring to this plant the Burmannia biflora of Linnæus. The description of Clayton applies minutely. The "3 segments from the side of the pericarp resembling the feathered, of an arrow," agree with the dilated, though not actually featherd wings of the capsule. The size, the habitat, the time of flowering, all accord. I should, therefore, at once have placed the genus Burmannia here ;

but as this name appropriately belongs to the B. disticha, we must wait until that species can be again examined. I suspect that the 3 inflexed segments of the corolla of this plant, have in a hasty examination been considered as 3 filaments, and the genus incorrectly referred to Hexandria.

IXIA.

Corolla 6-partita, patens, æqualis, tubo recto.	*Corolla* 6 parted, expanding, equal, with the tube straight.

1. Cœlestina.

I. foliis lineari-subulatis, scapo unifloro multitoties brevioribus. Sp. pl. 1. p. 200.	Leaves linear, subulate, many times shorter than the one flowered scape.

Pursh, 1. p. 29. Bartram's Travels, p. 152.

This plant found by Mr. Bartram around the savannahs of Florida and Georgia, has not been lately seen. No doubt hower can be entertained of its existence, although its station may not be accurately known.

Flowers April—May.

IRIS. Gen. pl. 97.

Corolla 6-partita, laciniis alternis reflexis. *Stigmata* petaliformia.	*Corolla* 6 parted, alternate segments reflexed. *Stigmas* resembling petals.

1. Cristata.

I. barbata, barba cristata; scapo subunifloro, longitudine foliorum; germinibus trigonis; petalis subæqualibus. Sp. pl. 1. p. 225.	Bearded, beard crested; scape generally one flowered, as long as the leaves; germs 3 angled; petals nearly equal.

Mich. 1. p. 22. Pursh, 1. p. 29.
I. verna, Walt. p. 67.

(*Root* creeping. *Stem* compressed, 2—4 inches high, clothed at base with ensiform leaves. Exterior *petals* oblong, obtuse, entire, pale blue, yellow in the middle, with three longitudinal, undulated crests, instead of a beard; interior *petals* a little narrower, entirely blue. *Filaments* and *Anthers* pale yellow. *Stigmas* pale blue, shorter than the petals. Aiton, Hort. Kew. 1st ed. 1. p. 70.)

Grows in the dry pine barrens of the middle country; very common about Columbia.

Flowers February—March. *Crested Iris.*

2. VERSICOLOR.

I. foliis ensiformibus; scapo tereti flexuoso; germinibus subtrigonis; stigmatibus basi bidentatis. Sp. pl. 1. p. 233.	Leaves ensiform; scape columnar, flexuous; germs somewhat three angled; stigmas 2 toothed at base.

Walt. p. 67. Pursh, 1. p. 29.

Root thick, creeping. *Stem* 3 feet high, flexuous at base, frequently straight towards the summit, sometimes branched, rather taller than the leaves. *Flowers* 2—4 in a terminal raceme. *Corolla* with the segments all spathulate; exterior segments wider than the stigmas, yellow, variegated with purple, pubescent on the interior surface, unbearded; border oval, obtuse, blue; interior segments similar but smaller, with paler colours, and shorter than the stigmas. *Filaments* inserted into the tube of the corolla. *Anthers* yellow, linear, two celled, the cells attached to the sides of the contracted filament. *Germ* with the angles obtuse, obscurely furrowed. *Style* short, triangular. *Stigmas* strap-shaped, 2 toothed near the base. *Capsule* obtusely 3 angled, ventricose, 3 celled.

Grows in ponds and along fresh water streams; very common.

Flowers April—May. *Variegated Iris.*

The root of this species of Iris is astringent to the taste, and when given in the form of a decoction is decidedly diuretic. It enters into the composition of a very successful remedy for dropsy. A decoction is prepared of it and the root of the Eryngium yuccifolium in the proportion of three-fourths of the former to one-fourth of the latter, and given to adults in the quantity of a pint in twelve hours. It is usual to persevere in the use of this remedy while any swelling remains, and to diminish or increase the doses according to the effect produced on the urinary discharge, which is generally very considerable. This preparation seldom or never disturbs the bowels, as might be supposed from the reputed character of this flag as a cathartic; but when the proportion of the Eryngium is too great, it vomits.

3. TRIPETALA. Walt.

I. foliis ensiformibus; caule tereti, foliis longiore; rudimentis petalorum interiorum tridentatis.	Leaves ensiform; stem columnar, longer than the leaves; rudiments of the interior petals 3 tooted.

Walt. p. 66.

I. tridentata, Pursh, 1. p. 30.

Root creeping. *Stem* slender, 2 feet high. *Leaves* shorter than the stem, linear-ensiform. *Flowers* solitary. Exterior segments of the *corolla* large, twice as long as the stigmas, nearly acute, unbearded; interior scarcely longer than the style, 3 toothed; the 2 exterior teeth obtuse; the middle one longer, acute. *Stigmas* 2 toothed near the base. *Capsule* nearly cylindrical, obscurely 3 angled, very acuminate.

From specimens sent by Dr. Macbride.

Grows in the ponds of St. Johns and St. Stephens; it appears circumscribed in its habitat, as I have heard of it in no other part of the country, and it was unknown to Dr. Muhlenberg except by Walter's description when I sent him specimens. As the I. tripetala of Thunberg has been removed to the genus Moræa, I have retained Walter's name.

Flowers April—May. *Three-petalled Iris.*

4. HEXAGONA. Walt.

I. caule tereti. flexuosa; germinibus trigonis, angulis profunde sulcatis; stigmatibus basi attenuatis. E.	Stem columnar, flexuous; germs 3 angled; angles deeply furrowed; stigmas tapering at base.

Walt. p. 66.

I. Virginica, Mich. 1. p. 22. Pursh, 1. p. 29.

Stem flexuous, columnar, shorter than the leaves, 2 feet high. *Leaves* ensiform. *Flowers* solitary. Exterior segments of the *corolla* large, spathulate, with the summits nearly rounded, crenulate, reflexed, bright azure, variegated at base with purple and white; the interior erect, a little spathulate, oval, pale azure, a little variegated at base; a line of yellow glandular hair runs along the claw and base of the exterior segments. *Anthers* linear, attached to the margin of the dilated filament, yellow, the filament between them white *Stigmas* tapering at base. *Capsule* six angled, ventricose.

Grows in the river swamp at Ogechee, intermingled with the I. versicolor; but rare in sandy ponds where the latter abounds. This is the most ornamental of our species of Iris. *Six-angled Iris.*

5. CUPREA. Pursh.

I. caule hinc angulato; stigmatibus corolla duplo brevioribus, versus basin dilatatis; germinibus hexagonis. E.	Stem angled on one side; stigmas twice as short as the corolla, dilated near their base; germ 6 angled.

I. fulva, Muhl. Cat.

Pursh, 1. p. 30.

Stem 3 feet high, flexuous, the lower joints angled on one side. *Leaves* ensiform, margins very entire. *Flowers* 6—10. axillary, 2 frequently in each axil. *Corolla* tawny; the exterior segments obovate, emarginate: the interior smaller. *Germ* six angled. *Stigmas* diated near the base, somewhat toothed; the margin membranaceous, tapering at base. *Capsule* acutely six angled, ventricose.

Grows in the marshes of the Alatamaha—Mr. Le Conte.

Flowers April—May. *Tawny Iris.*

LACHNANTHES. E.

Corolla supera, limbo sexpartito, laciniis inæqualibus. *Stigma* minutissime trifidum. *Capsula* 3-locularis, truncata, polysperma.

Corolla superior, border 6 parted, segments unequal. *Stigma* minutely 3 lobed. *Capsule* 3 celled, truncated, many seeded.

1. Tinctoria.

Anon. tinctor. Walt. p. 68.
Heritiera Gmelini, Mich. 1. p. 21—24.
Dilatris Heritiera, Persoon, 1. p. 54.
Dilatris tinctoria, Pursh, 1. p. 80.

Root fibrous, perennial. *Stem* erect, simple, herbaceous. 2 feet high, columnar, becoming hairy towards the summit. *Leaves* alternate, ensiform, shorter than the stem. *Flowers* in a corymbose panicle. *Calyx* 0. *Corolla* 1 petalled; tube short; 3 segments smaller, linear; 3 lanceolate; corolla tomentose without, dilating over the germ, clothing it, and forming its outer integument. *Filaments* 3, equal, filiform, longer than the corolla, and inserted into its tube. *Anthers* linear. *Germ* globose. *Style* filiform, declining, as long as the stamens. *Stigma* (small. Walt.) (minutely 3 lobed, Mich.) *Capsule* globose, 3 valved, bursting at the sides. *Seeds* 6—7 in each cell, round, compressed, attached to a central receptacle.

I have used the minute descriptions of Walter & Michaux comparing them with excellent specimens. I have not seen the plant alive. This plant cannot be referred to the genus Dilatris, its *monopetalous corolla*, *equal filaments*, and *many seeded cells* forbid; and Gmelins generic name of Heritiera is now applied to another plant. It bears a great affinity to the Conostylis Americana of Pursh and may at some future period be associated with it.

Grows in ponds and savannahs of the pine barrens.

Flowers July—August. *Yellow-rooted Trichoma.*

COMMELINA. GEN. PL. 86.

Corolla 6-petala. *Nectaria* 3, cruciata, filamentis propriis inserta.	*Corolla* 6 petalled. *Nectaries* 3, cross shaped, inserted on their own filaments.
* *Dipetalœ; ob duo petala majora.*	* *Two petalled;* 2 *petals being conspicuously larger.*

1. COMMUNIS.

C. corollis inæqualibus; foliis ovato-lanceolatis, acutis; caule repente. Sp. pl. 1. p. 249.	Corolla unequal; leaves ovate lanceolate, acute; stem creeping, glabrous.

Pursh, 1. p. 32.
C. caroliniana? Walt. p. 68.

Root fibrous, annual. *Stem* prostrate, creeping, jointed, round, striated, smooth, much branched. *Leaves* alternate, smooth, obscurely 7 nerved, the margin cartilaginous, finely serrulate, terminating in a short open ciliate sheath. *Flowers* 1—3 on solitary peduncles oppossite the leaves. *Bracteas* cordate, slightly acuminate, nerved, glabrous, ciliate particularly near the base, compressed, not secreting a fluid, (as in the C. erecta); each bractea having at its base a sterile, erect hairy pedicel. *Calyx?* 3 leaved persistent; the anterior leaf ovate lanceolate; lateral leaves larger, ovate, obtuse. *Corolla* small, 3 petalled, light blue; two lateral, spathulate, rounded, with long claws, the third reniform. *Nectaries* 4, irregularly cross shaped, yellow, on subulate, unequal, sky blue pedicels, shorter than the stamens. *Filaments* 2, subulate, sky blue, as long as the corolla, inserted at the base of the germ, slightly curved. *Anthers* incumbent, oblong, furrowed, sky blue. *Germ* superior, ovate, obliquely 3 furrowed. *Style* filiform, sky blue, shorter than the stamens. *Stigma* capitate. *Capsule* irregularly 3 sided, 3 celled, 3 valved; one cell frequently abortive. *Seeds* 2 in each cell, oval, truncate at one end.

Grows in swamps and wet ground.
Flowers June—November. *Creeping Commelina.*

2. ERECTA.

C. corollis inæqualibus; foliis ovato-lanceolatis;	Corolla unequal; leaves ovate lanceolate; stem

caule erecto, scabro, simplicissimo. Sp. pl. 1. p. 250.	erect, scabrous, very simple.

C. communis? Walt. p. 68.
C. angustifolia. Mich. 1. p. 24. Pursh, 1. p. 31.

Root perennial, fibrous: fibres thick, fleshy. *Stem* herbaceous, procumbent and erect, a little pubescent and scabrous, branching near the base. *Leaves* narrow-lanceolate, 5 nerved, somewhat scabrous on the upper surface, smooth on the under: sheath scabrous, ciliate. *Peduncles* generally 3 flowered, opposite the leaves. *Flowers* approximate, enclosed before flowering in a bractea. *Bractea* cordate, acuminate, compressed, scabrous, in the time of flowering filled with a secreted fluid. Proper *peduncles* succulent, round, as long as the bractea, curved and concealed in the bractea when young, extending when the flower is prepared to expand. *Calyx?* 3 leaved; leaves oval, white, one smaller than the rest. *Corolla* 3 petalled: 2 larger, unguiculate, cordate and round: one very small. *Nectaries* 4, on filaments, blue at base, yellow near the summit: 3 as in the former species: one larger, compressed, recurved, 2 cleft at base. *Filaments* 2. *Style* longer than the stamens.

Grows in dry sandy soils.
Varies;
a. in open grounds, procumbent, branching, glabrous.
b. in shaded spots, erect, simple, scabrous.
Flowers May. *Narrow-leaved Commelina.*

3. HIRTELLA. Vahl.

C. foliis lanceolatis, petiolatis, cauleque erecto pilosis, conduplicatis: involucris lateralibus, terminalibusque sessilibus. Vahl. Enum. pl. 2. p. 166.	Leaves lanceolate, petiolate and with the erect stem hairy, doubled; involucrums lateral and terminal, sessile.

Pursh, 1. p. 31.

Stem long, branching. Pursh. To this species Pursh refers the C. longifolia of Michaux.

Grows in shaded, rocky situations.
Flowers July. *Hairy Commelina.*

** *Tripetalæ; petalis tribus majoribus.*	** *Three petalled;* 3 *petals being larger.*

4. VIRGINICA.

C. corollis subæqualibus; foliis lanceolatis,	Corolla nearly equal; leaves lanceolate, some-

subpetiolatis, ore barbatis; caulibus erectis. Sp. pl. 1. p. 2 0.	what petiolate, with the throat bearded; stem erect.

Walt. p. 68. Pursh, 1. p. 31.
C. longifolia, Mich. 1. p. 22.

Root perennial. *Stem* herbaceous, generally erect, 2 feet high, striate, columnar, slightly pubescent. *Leaves* oblong, sometimes ovate-lanceolate, finely serrulate, scabrous on the upper surface, paler and smooth on the under, sprinkled with a few hairs. *Sheath* furrowed, rather smooth, the margin and throat ciliate, with a rufous beard. *Flowers* clustered at the summit of the stem, sometimes axillary in the upper leaves. *Bractea* nerved. scabrous; when extended reniform, enclosing two pedicels, one fertile, the other sterile. *Calyx?* 3 leaved; leaves membranaceous. ovate-lanceolate, the upper one very small. *Corolla* 3 petalled, petals nearly round, clawed, sky blue, the inferior one smaller. *Nectaries* 3, ovate, yellow, emarginate at the summit, contracted and 2 cleft at base; with 2 lateral glands on foot stalks, coloured, subulate, shorter than the filaments, inserted into the upper side of the germ at its base. *Filaments* 3, white, longer than the corolla. inserted into the lower side of the germ at its base. *Anthers* incumbent, furrowed, somewhat sagittate, yellow. *Style* longer than the stamens.

Grows in ditches and around ponds.

Flowers August—October. *Virginian Commelina.*

SYENA. Gen. pl. 88.

Calyx 3-phyllus. *Corolla* 3-petala. *Antheræ* oblongæ. *Capsula* 1-valvis, 3 locularis.	*Calyx* 3 leaved. *Corolla* 3 petalled. *Anthers* oblong. *Capsule* 1 valved, 3 celled.

1. **Fluviatilis.**

Sp. pl. 1. p 254. Pursh. 1. p. 32.
Mayaca fluviatilis, Aublet. 1. p. 42. t. 15.
Mayaca Aubleti, Mich. 1. p. 26.

Root perennial? creeping, partly submersed, forming moss-like tufts. *Stem* herbaceous, 2—3 inches high. *Leaves* crowded, subulate, 1—2 lines long. *Flowers* axillary, solitary, on peduncles longer than the leaves. *Calyx* persistent. *Filaments* half as long as the calyx. (*Seed* 2 to each valve. Mich.) *Peduncle* after flowering, bent downwards.

Grows in springy ground, near Spring-hill, Savannah—Dr. Brickell. Columbia, South-Carolina—Mr. Herbemont. Louisville, Georgia.—Mr. Jackson.

Flowers June. *Moss-like Syena.*

STIPULICIDA. Mich.

Calyx 5-partitus. *Corolla* 5-petala. *Stigmata* 3. *Capsula* 1-locularis, 3-valvis.	*Calyx* 5 parted. *Corolla* 5 petalled. *Stigmas* 3. *Capsule* 1 celled, 3 valved.

1. **Setacea.**

Mich, 1. p. 26. t. 6.
Polycarpon stipulifidum, Pursh, 1. p. 90.

Root fibrous, annual? *Stem* erect, 6—10 inches high, smooth, dichotomously, sometimes trichotomously branched. *Leaves* near the root small, opposite, spathulate; on the branches 0. At each fork of the branches 2 fimbriate *Stipules*. *Flowers* in terminal clusters, (4—6 in each,) sessile. *Corolla* white. *Stamens* shorter than the petals. *Style* short. *Seeds* few.

Grows in dry sandy soils, near Fort Barrington—Mr. Lyon, Columbia—Dr. Macbride, near Augusta,—Dr. Baldwin.

Flowers May.

This genus differs only by its single style and entire petals from Polycarpon.

XYRIS. Gen. pl. 89.

Corolla 3-petala. æqualis, crenata. *Glumæ* bivalves in capitulum. *Capsula* supera.	*Corolla* 3 petalled, equal, crenate. *Glumes* 2 valved, in a capitulum. *Capsule* superior.

1. **Flexuosa.** Muhl. Cat.

X. capitulis arcte imbricatis; calyce bracteis breviore, parce plumoso; foliis longis, gladiatis, tortuosis. E.	Heads closely imbricate; calyx shorter than the bracteas, sparingly feathered; leaves long, sword shaped, twisted.

X. Caroliniana, Walt. p. 69. Pursh, 1. p. 33.
X. jupicai, Mich. 1. p. 23.

Root perennial. *Stem* herbaceous, erect, 2 feet high, columnar, smooth, spiral, furrowed with 2 lines, dilated at the summit. *Leaves* sword shaped, a little dotted, spiral, 12—14 inches long, sheathing the base of the stem. *Flowers* in an ovate terminal, imbricate capitulum. *Bractea* an ovate or rounded scale, rigid, concave, covering the bud and the capsule; the lower scales commonly without flowers. *Calyx* 2 leaved, somewhat persistent; leaves nearly linear, rather shorter than the bracteas, slightly feathered on the back towards the summit. *Corolla* 3 petalled, claws nearly as long as the bracteas, dilated above, yellow. *Filaments* inserted into the claw of the corolla, bearded. *Anthers* erect. *Germ* superior, 3 angled, flattened. *Style* as long as the stamens, 3 cleft. *Stigmas* obtuse, glandular. *Capsule* 1 celled, 3 valved, opening at the angles. *Seeds* numerous, small, obliquely lanceolate, striate, (adhering to an elevated rib in the middle of each valve. Gærtner.)

A membranous sheath envelopes the corolla before flowering, and the capsule after the corolla decays.

Grows in flat pine barrens. Very common.

Flowers July—September. *Twisted Xyris.*

2. FIMBRIATA. E.

X. capitulis laxe imbricatis; calyce bracteis multo longiore, fimbriato; foliis longis, gladiatis. E.	Heads loosely imbricate; calyx much longer than the bracteas, fimbriate; leaves long, sword shaped.

Root perennial. *Stem* 2 feet high, a little scabrous, dilated at the summit. *Leaves* nearly as long as the stem. *Flowers* in an oblong capitulum, with the scales or bracteas loosely appressed. *Bracteas* round. *Calyx* nearly twice as long as the bracteas, the keel divided into long segments (fimbriæ) that give the head a feathered aspect.

The corolla and anthers of this species require further examination.

Every species of Xyris exudes a gelatinous fluid from the roots and base of the leaves, and this perhaps more abundantly than any other.

Sent from Georgia by Dr. Baldwin.

Flowers July—August. *Feathered Xyris.*

3. BREVIFOLIA. Mich.

X. foliis subulato-gladiatis, brevibus; calyce bracteis breviore, subinciso dentatis. E.	Leaves subulate, sword shaped, short; calyx shorter than the bracteas, slightly notched.

Mich. 1. p. 23. Pursh, 1. p. 33.

Root perennial. *Stem* 12—18 inches high, compressed near the summit. *Leaves* 3—6 inches long, linear, subulate, much twisted. *Head* nearly globose. *Calyx* linear, rather shorter than the bracteas. The *Keel* which in the former species is dilated and feathered, or deeply fringed, in this is only slightly and irregularly notched (incised.)

Grows in flat pine barrens in the middle country of Carolina. Common.

Flowers August—September. *Short-leaved Xyris.*

4. Juncea. Baldwin.

X. foliis teretibus, fistulosis, acutis; scapo tereti, basi vaginato; bracteis subrotundis; capitulo ovali. B.	Leaves terete, hollow, acute; scape terete, sheathed at base; bracteas nearly round; head oval.

Root perennial. *Stem* 6—12 inches high. *Leaves* 4—8 inches long. *Calyx* about as long as the bracteas; the keel slightly toothed. *Filaments* naked. B.

Grows in damp situations in the pine barrens near St. Mary's.

Flowers May—June.

FUIRENA. Gen. pl. 90.

Amentum imbricatum, squamis aristatis. *Calyx* 0. *Corolla* 3-valvis, valvulis arista terminatis.	*Amentum* imbricate, with awned scales. *Calyx* 0. *Corolla* 3 valved, valves terminated with an awn.

1. Squarrosa.

F. foliis angusto-lanceolatis, brevioribus; capitulis, pluribus (5—6) aggregatis; valvulis corollinis cordato-ovatis, mucronatis. E.	Leaves narrow, lanceolate, short; heads many, (5—6) clustered; valves of the corolla cordate-ovate, with short awns.

Mich. 1. p. 37.

Stem 1—2 feet high, columnar, firmly erect, smooth, hairy at the summit. *Leaves* 3 nerved, scabrous on the upper surface, smooth on the under, distinctly ciliate. *Heads* many, ovate, aggregate, in clusters of 4—7, sometimes axillary. Scales of the *amentum* oval, nearly smooth: awn long, expanding. Valves of the *corolla* pedicellate, cordate or abruptly rounded at base. *Awn* shorter than the valve.

Grows 1 mile from Bee's Creek, on the road to Purysburg, in wet ditches.

Flowers September—November. *Rough-headed Fuirena.*

2. SCIRPOIDEA.

F. caulibus aphyllis; capitulo unico ovato; valvulis corollinis ovalibus muticis?	Stem leafless; head one, ovate, terminal; valves of the corolla oval, without awns.

Mich. 1. p. 38. t. 7.
Vaginaria Richardi, Persoon, 1. p. 70. Pursh, 1. p. 58.

(*Root* creeping, Mich.). *Stem* erect, 12—18 inches high, slender, round, smooth. *Leaves* 0, but sheaths alternate, smooth, striate, obliquely truncate, pointed. *Head* one, (sometimes 3, Mich. fig.) Scales of the *amentum* ovate, pubescent, awned; awn short, erect. Valves of the *corolla* oval or lanceolate; (in my specimens without awns.)

From specimens sent from St. Mary's, Georgia, by Dr. Baldwin.
Flowers *Rush-like Fuirena.*

Richard remarks that the involucrum of the seed of this species is composed alternately of three scales and three bristles. Every flower which I have opened contained 3 scales, and as the inflorescence bears in other respects a sufficient resemblance to Fuirena, I have retained it in this genus.

KYLLINGIA. GEN. PL. 91.

Amentum ovatum s. oblongum, imbricatum. *Calyx* 2-valvis. *Corolla* 2-valvis. Sp. pl.	*Ament* ovate or oblong, imbricate. *Calyx* 2 valved. *Corolla* 2 valved.
Calyx 1-valvis s. 0. *Corolla* 2-valvis. *Flores* capitati. E.	*Calyx* 1 valved or 0. *Corolla* 2 valved. *Flowers* in heads.

1. MONOCEPHALA.

K. culmo filiformi, triquetro; capitulo globoso, sessili; involucro triphyllo, longissimo. Sp. pl. 1. p. 256.	Stem filiform, 3 angled; head globose, sessile; involucrum three leaved, very long.

Muhl. Cat. p. 5.

Root perennial, creeping, stoloniferous. *Stem* 3—12 inches high. *Leaves* linear, shorter than the stem. Heads always single, uniformly inclining to one side. *Involucrum* sometimes with a fourth leaf, one of the leaves always erect, and twice or thrice the length of the horizontal ones. Baldwin.

Found near Sunbury, Georgia, by Mr. Le Conte.

Flowers October.

2. PUMILA. Mich.

K? calyce nullo; corolla compressa, bivalvi, valvis inæqualibus; capitulo subgloso. E.	Calyx wanting; corolla compressed, 2 valved, valves unequal; head nearly spherical.

Mich. 1. p. 28. Pursh, 1. p. 46.

Root fibrous. *Stem* erect, 3—6 inches long, 3 angled, glabrous. *Leaves* shorter than the stem, subulate, acute, slightly keeled, expanding, sheathing the base of the stem. *Involucrum* generally composed of 3 leaves, unequal, long, similar to the root leaves. *Flowers* placed vertically in a sessile, terminal, nearly globose head, which frequently bulges at base, as if forming 1 or 2 smaller heads *Calyx* or *scale* 0. *Corolla* 2 valved; valves acute, compressed; the keel green, sides membranous; exterior valve shorter than the interior. *Stamens* 2. *Germ* compressed, oval. *Style* longer than the corolla, 2 cleft. *Stigmas* 2. *Seed* naked.

I have examined this plant frequently, and at least patiently. My observations do not agree with the usual description of this genus, and may be incorrect.

Grows in close damp soils, around ponds, &c. Very common.

Flowers August—December. *Dwarf Kyllingia.*

3. MACULATA. Mich.

K. calyce monophyllo, imbricato; corolla bivalvi, valvis inæqualibus; capitulis plerumque tribus, ovatis, subacutis, sessilibus. E.	Calyx one leaved, imbricate; corolla 2 valved, valves unequal; heads generally 3, ovate, somewhat acute, sessile.

Mich. 1. p. 29. Pursh, 1. p. 47.

Root fibrous. *Stem* 3—5 inches high, 3 angled, glabrous. *Leaves* and *Involucrum* similar to those of the preceding species, but rather narrower. *Flowers* in 3—5 ovate, imbricate, acute heads, closely sitting. *Calyx* 1 leaved, cuneate-lanceolate, acute, with the midrib green, longer than the flower which it guards. *Corolla* 2 valved, valves concave, unequal; the exterior shortest. *Stamen* 1? *stigmas* 2. *Seed* oblong, nearly cylindrical.

I have not been able in this species to discover an interior valve to the calyx. The scales of the calyx in fact appear to form an ament as in the genus Scirpus, but instead of a naked or bristle bearing seed, they inclose a seed furnished with a 2 valved corolla. I have discovered but one stamen in each flower; but as I have only seen dried specimens, I cannot speak with certainty.

The spots from which Michaux named his species, I have not been able to distinguish; yet our plants agree in so many particulars, that I have been unwilling to change his name.

Sent to me from Georgia, by Dr. Baldwin.

Flowers *Three-headed Kyllingia.*

SCHOENUS. Gen. pl. 92.

Calycis squamæ in spicam fasciculatæ, inferiores vacuæ. *Corolla* 0. *Stylus* deciduus.	Scales of the *Calyx* collected into a spike, the inferior ones empty. *Corolla* 0. *Style* deciduous.

1. Setaceus.

S. Pedunculis axillaribus terminalibusque, subtrifloris; culmo trigono; foliis setaceis. Vahl. Enum. pl. 2. p. 219.	Peduncles axillary and terminal, generally three flowered; stem three angled; leaves setaceous.

Pursh, 1. p 47.

Grows in Carolina, Vahl.

2. Hispidulus.

S. pedunculis axillaribus terminalibusque, tristachyis; spiculis subglobosis, pedicellatis; foliis filiformibus, hispidis. Vahl. Enum. pl. 2. p. 219.	Peduncles axillary and terminal, three spiked; spikes globose, on footstalks; leaves filiform, hispid.

Pursh, 1. p. 47.

Grows in Carolina. La Marck.

3. Effusus. Swartz.

S. culmo folioso, obtuse triquetro; foliis antrorsum	Stem leafy, obtusely 3 angled; leaves acu-

aculeatis ; panicula terminali, prælonga, diffusa ; semine ovato, longitudinaliter rugoso. E.	leate, with the sharp serratures bending forwards; panicle terminal, very long, diffuse ; seed ovate, longitudinally wrinkled.

Sp. pl. 1. p. 266.

Stem 6—10 feet high. *Leaves* 2—3 feet long, 8—10 lines wide, glabrous, with the margins and midrib most sharply serrate. *Flowers* in compound panicles lateral and terminal, near the summit of the stem, forming altogether one oblong, conical, panicle 12—20 inches long. *Seed* not compressed, longitudinally wrinkled, pointed by the tapering of its own body, not by an attached tubercle, and without surrounding bristles.

Grows in ponds, and in fresh marshes.

Flowers August—September. *Saw grass. Fresh water Marsh.*

RHYNCHOSPORA.

Calycis squamæ in spicam fasciculatæ, inferiores vacuæ. *Corolla* 0. *Stylus* basi persistens. Setæ basi *seminis*.	Scales of the *Calyx* collected into a spike, the inferior ones empty. *Corolla* 0. *Style* persistent at base. Bristles at the base of the *seed*.

1. ALBA.

R. spicis corymboso-faciculatis ; culmo superne triquetro ; foliis linearibus, canaliculatis ; setis seminis decem. Hort. Kew. 1. p. 127.	Spikes in corymbose clusters ; stem above, 3 angled ; leaves linear, channelled ; bristles of the seed 10.

Vahl. Enum. pl. 2. p. 236. Pursh, 1. p. 49.
Schœnus albus, Mich. 1. p. 34.

Root fibrous. *Stem* about a foot high, very slender, glabrous. *Leaves* linear, glabrous. *Flowers* in small corymbose clusters axillary and terminal. *Spikes* fusiform. *Glumes* nearly white. *Seed* lenticular, nearly smooth, crowned with a conic tubercle ; bristles retrorsely scabrous.

Grows in Carolina, Dr. Muhlenberg.

2. RARIFLORA.

R. culmo foliisque setaceis; paniculis laxis, paucifloris; semine obovato, rugoso; setulis semen æquantibus.	Stem and leaves setaceous; panicles loose, few-flowered; seed obovate, rugose; bristles as long as the seed.

R. micrantha, Vahl. 2. p. 231. Pursh, 1. p. 48.
Schœnus rariflorus, Mich. 1. p. 35.

Root fibrous, perennial, cespitose. *Stem* about 1 foot high, leafy. *Leaves* shorter than the stem, glabrous. *Panicles* lateral and terminal. *Calyx* many leaved. (5—7:) the 3 or 4 exterior lanceolate, mucronate, imbricate, smaller; the 2 interior resembling a corolla, each sheathing a germ, one of which is frequently abortive. *Filaments* 3, longer than the calyx. *Germ* superior, compressed, obovate, crowned with a tubercle nearly of its own size. *Stigmas* 2, acute, reflexed. *Seed* like the germ, crowned with a compressed tubercle; bristles generally 3? (I have seen 4), as long as the seed without the tubercle.

Grows in wet ground, bogs &c. Common.

Flowers April—May.

3. PLUMOSA. E

R. culmo gracili, triquetro; foliis linearibus; floribus terminalibus congestis; bracteis aristatis; setulis plumosis. E.	Stem slender, 3 angled; leaves linear; flowers terminal, crowded; bracteas awned; bristles feathered.

Stem 8—12 inches high, 3 angled, glabrous. *Leaves* linear, the upper ones longer than the stem, the margins scabrous; sheath short, closed. *Flowers* in small clustered fascicles forming a loose cylindrical spike, sometimes an axillary spike a little below the terminal. *Bracteas* ovate, terminating in an awn, which on the lower bracteas is nearly an inch long, on the upper, decreasing. Exterior valves of the *calyx* awned; the awns shorter than the spike. *Seed* rugose, slightly margined; bristles six feathered.

Grows in dry pine barrens. Common around Beaufort. Near St Mary's—Dr. Baldwin.

Flowers June—August.

4. CYMOSA. Muhl. Cat.

R. caule tereti; foliis linearibus; paniculis confertifloris, subcymosis;	Stem round; leaves linear; panicles like cymes, with the flowers

semine glabro; setulis setaceis. E.

crowded; seed glabrous; bristles setaceous.

Stem 1—3 feet high, nearly round. *Leaves* linear, acute, glabrous, concave, not channelled. *Panicles* axillary and terminal, remote. *Calyx* generally 6 leaved, the interior longer: 5th ovate lanceolate, mucronate, of a dark ferruginous colour; the 6th shorter than the 5th, white, membranaceous, containing a sterile and fertile flower: the sterile floret enclosed in a small sheath of its own. *Seed* compressed, lenticular, oval, margined, smooth, crowned with a short compressed conic tubercle; bristles 6, setaceous, one third shorter than the mature seed.

Grows in bogs, ditches &c.

Flowers through the whole summer.

5. LONGIROSTRIS.

R. culmo triquetro; paniculis subcorymbosis; semine obovato, marginato, stylo persistente longo mucronato; setulis scabris. E.

Stem 3 angled; panicles like corymbs; seed obovate, margined, pointed with the long persistent style; bristles scabrous.

R. laxa. Vahl. 2. p. 231.
Schœnus corniculatus, La Marck, illust. 1. p. 132.
Schœnus longirostris. Mich. 1. p. 35.
Schœnus umbellatus? Walt. p. 70.

Stem erect, smooth, 3—6 feet high. *Leaves* linear-lanceolate, irregularly serrulate, channelled, glabrous, 1—2½ feet long, 6—8 lines wide; sheath at base closed, shorter than the joints. *Flowers* in racemes supradecompound, axillary and terminal, resembling umbels. *Calyx* with the 6th or interior leaf inclosing a germ; between the 5th and 6th leaf are found 2 or 3 sterile florets, each embraced by a small lanceolate membrane. *Seed* obovate, compressed, margined, nearly smooth, crowned with a persistent style three times its own length; bristles scabrous, one third shorter than the seed.

Grows in ditches, ricefields and wet places.

Flowers July—October.

6. DISTANS.

R. culmo triquetro; floribus in fasciculis distantibus; semine lenticu-

Stem 3 angled; flowers in distant clusters; seed lenticular, slightly

lari, lævissime sulcato; setulis setaceis.	furrowed; bristles setaceous.

Pursh, 1. p. 48.
Schœnus distans, Mich. 1. p. 36.

Stem 12—20 inches high. *Leaves* linear, glabrous, with the margins serrulate; sheath at base closed. Clusters of *flowers* axillary, on peduncles moderately long; each spikelet sessile. *Seed* to the naked eye nearly smooth, under a lens transversely sulcate; tubercle nearly conic, depressed, short; bristles setaceous as long as the seed.

Grows in wet soils.

Flowers June—September.

7. PUNCTATA. E.

R. fasciculis approximatis ad summitatem caulis, lateralibus terminalibusque; seminibus rugosis, punctatis. E.	Fascicles lateral and terminal, near together at the summit of the stem; seeds rugose, dotted.

Stem slender, 1—2 feet high, 3 angled. *Leaves* linear-lanceolate, acute, scabrous along the margins, slightly channelled, generally short. *Flowers* in small fascicles clustered near the summit of the stem, where the joints become very short. Lower glumes of the *calyx* mucronate, the upper acute. *Seed* rugose, dotted in the furrows, compressed; crowned with a compressed, conic tubercle. *Bristles* longer than the seed. Near to R. distans, from which it differs by its clustered heads, its shorter? leaves, but principally by the seed, which in that species is turgid, very slightly furrowed, with the tubercle depressed; while in this it is smaller and more rugose,

Grows in Georgia. Dr. Baldwin.

Flowers—

8. FASCICULARIS.

R. floribus fasciculatis, lateralibus terminalibusque; bracteis brevibus; spiculis oblongis; squamis mucronatis; setulis semine lævi duplo longioribus.	Flowers in fascicles, lateral and terminal; bracteas short; spikelets oblong; scales mucronate; bristles twice as long as the smooth seed.

Pursh, 1. p. 48,
Schœnus fascicularis, Mich. 1. p. 37.

I am unacquainted with this species. Michaux adds that the *leaves* are narrow and flat; the *spikes* few and glabrous; and the bristles a little hispid.

Inhabits Carolina. Mich.

9. GLOMERATA.

R. spicis corymboso-fasciculatis, remotissimis, geminatis; culmo obtusangulo; foliis linearibus. Vahl. 2. p. 234.	Spikes clustered in corymbs, very distant, by pairs; stem obtusely angled; leaves linear.

Sp. pl. 1. p. 266. Pursh, 1. p. 48. Walt. p. 69? Clayton, p. 9. No. 585.

This spiecies has descended to us from Clayton, but is to me still obscure. He remarks that the heads are composed of ten or more dusky, acuminate spikes, sitting on long erect peduncles that grow from the joints, stem geniculate, leaf 3 angled.

This description nearly applies to the R. capitellata of this Sketch, but the twin peduncles, which are mentioned by Gronovius, though not by Clayton, I have not noticed in any of our species of Rhynchospora.

Grows in Carolina. Pursh, on the authority of Walter.

10. CAPITELLATA.

R. caule triquetro; floribus in capitulis axillaribus; semine oblongo-obovato, mucronato; setulis scabris.	Stem 3 angled; flowers in axillary heads; seed oblong, obovate, pointed with a subulate tubercle; bristles scabrous.

Pursh, 1. p. 49?

Schœnus capitellatus, Mich. 1. p. 36.

Stem 18—24 inches high. *Leaves* nearly setaceous, shorter than the stem; sheath at base closed. *Flowers* in spherical heads on footstalks scarcely longer than the sheaths. *Seed* compressed, nearly cuneiform, crowned with a subulate tubercle.

Grows in wet places, generally in poor soils.

Flowers May—September.

11. INEXPANSA.

R. culmo obsolete triquetro, paniculis remo-	Stem obscurely 3 angled; panicles remote,

tis. pendulis; semine oblongo, rugoso; setulis scabris semine duplo longioribus.

pendulous; seed oblong, rugose; bristles scabrous, twice as long as the seed.

Pursh, 1. p. 48?
Schœnus inexpansus, Mich. 1. p. 35.

Stem 2 feet high, generally bending, round and smooth below, three sided, and a little scabrous near the summit. *Leaves* 6—14 inches long, 2—3 lines wide, linear, acute, slightly serrulate, channelled. *Flowers* in panicles axillary and terminal on peduncles long and pendulous. *Seed* oblong, compressed, rugose, crowned with a long, very acute tubercle: bristles 6, scabrous, twice as long as the seed.

Grows in wet soils.

Flowers through the whole summer.

12. Caduca. F.

R. culmo triquetro: paniculis axillaribus, erectis; spiculis fasciculatis, sessilibus; semine lenticulari, rugoso; setulis semine duplo longioribus.

Stem 3 angled; panicles axillary, generally erect; spikelets clustered, sessile; seed lenticular, rugose; bristles twice as long as the seed.

Stem 1—2 feet high. *Leaves* linear-lanceolate, glabrous, finely serrulate. Common *peduncle* of the *panicle* twice as long as the sheath. *Tubercle* compressed, conical, short. This species is nearly allied to R. sparsus from which it differs in having its spikelets larger, clustered, and its panicle rather appressed than diffused. It is also remarkable for the facility with which it drops its mature glumes, so that in a specimen where the seeds are perfect, many of them will be found naked, adhering to their pedicels.

Grows in wet soils. Around Charleston, common. I have a variety sent from Savannah by Dr. Baldwin with solitary flowers.

Flowers in mid-summer.

13. Spars .

R. culmo triquetro; paniculis axillaribus, diffusis, spiculis omnibus pedicellatis; semine obovato rugoso; setulis semine duplo longioribus.

Stem 3 angled; panicles axillary, diffuse, with all the spikes on footstalks; seed obovate, rugose; bristles twice as long as the seed.

Pursh, 1. p. 49.
Schœnus sparsus, Mich. 1. p. 35.

Stem erect, 2 feet high. *Leaves* linear lanceolate, glabrous, finely serrulate, 8—16 inches long, 3—4 lines wide, sheath at their base closed. *Flowers* in panicles, every way expanding; common *peduncle* a little longer than the sheath: each spikelet on a peduncle 2—6 lines long. *Seed* crowned with a very small tubercle.

Grows in wet soils, in pine barrens generally.

Flowers May—August.

CYPERUS. Gen. pl. 93.

Glumæ paleaceæ, distiche imbricatæ. *Corolla* o. *Semen* 1. nudum.	*Glumes* chaffy, imbricate in 2 rows. *Corolla* o. *Seed* one, naked.

1. **Articulatus.**

C. culmo tereti, nudo, articulato. Sp. pl. 1. p. 270.	Stem columnar, naked, jointed.

Mich. 1. p. 27. Pursh, 1. p. 50.

Root jointed, creeping, perennial. *Stem* erect, 3—6 feet high, filled with a spongy pulp and irregularly jointed, cothed at base with 2 or 3 small sheath-like leaves. *Flowers* in compound umbels; the spikelets subulate, many flowered (10—20.) Scales of the *calyx* lanceolate, rather obtuse: midrib green, the sides membranaceous, white spotted with red: the 2 or 3 lower glumes sterile. *Filaments* 3. *Anthers* oblong, 2 lobed, yellowish *Germ* ovate. *Style* filiform, longer than the glumes. *Stigmas* 3, simple, acute.

Grows in wet places, in the river swamps at Ogechee, around ponds on Hilton Head.

Flowers June—August. *Jointed Cyperus.*

2. **Fasciculatus.** E.

C. spiculis ovato oblongis, multifloris, fasciculato-terminalibus; involucro diphyllo foliisque angustissime linearibus. E.	Spikelets ovate oblong, many flowered, in terminal fascicles; involucrum two leaved, and with the leaves linear and very narrow.

Stem 6 inches high, 3 angled. *Leaves* 1—2, very narrow, almost setaceous, shorter than the stem. *Involucrum* 2 leaved, one scarcely longer than the spikes, the other very long. Spikelets 5—7, all, in my specimens, sessile, 12—24 flowered. Valves rather obtuse, the keel deep green, the margins membranaceous.

Certainly very near the next species, yet differing in many respects. To the C. niveus, and to the C. difformis as described in note Sp. pl. 1. p. 281. these plants have much affinity.

Grows near Milledgeville Georgia. Dr. Boykin.

3. **Poæformis.** Pursh.

C. spiculis oblongis, complanatis, fasciculato-corymbosis; fasciculis sessilibus pedunculatisque; involucro triphyllo, longissimo. Pursh, 1. p. 50.	Spikes oblong, flattened, in corymbose fascicles; fascicles sessile and on peduncles; involucrum three leaved, very long.

Plant a span high. *Leaves* narrow linear, glabrous, scarcely as long as the stem *Stem* 3 angled, glabrous. *Involucrum* three leaved, two very long. Fascicles of *flowers* ovate, sessile, sometimes on short peduncles. *Spikes* ovate, oblong, short, 4—6 flowered. Valves ovate, obtuse, keeled, yellowish. Pursh.

Grows in sandy fields—South-Carolina. Pursh.
Flowers July.

4. **Kyllingæoides.**

C. capitulo globoso; spiculis oblongis, convexis, suboctofloris; involucro tetraphyllo, foliisque carinatis laxis. Vahl. Enum. pl. 2. p. 312.	Head globose; spikes oblong, convex, generally eight flowered; involucrums 4 leaved, and with the keeled leaves loose.

Pursh, 1. p. 50.

Stem 3 angled.
Grows in wet pine woods—New-Jersey—Carolina. Pursh.
Flowers June.

5. **Autumnalis.**

C. spiculis linearibus, terminalibus, digitato subternis; umbella involucrum diphyllum subæquante. Vahl. Enum. pl. 2. p. 318.	Spikes linear, terminal, digitate, generally by threes; umbel as long as the two leaved involucrum.

Pursh, 1. p. 51.

Spikes very slender. Valves purple with a green keel. *Stem* nearly cylindrical. Pursh.

Grows along the margins of ponds and ditches.
Flowers July—August.

6. COMPRESSUS.

C. culmo triquetro, nudo; umbellis compositis; spiculis capitatis, multifloris; glumis acuminatis, lateribus membranaceis. E.	Stem 3 angled, naked; umbels compound; spikelets capitate, many flowered; glumes acuminate, with their margins membranaceous.

Sp. pl. 1. p. 282. Sloan, Jam. 1. p. 117. t. 76. f. 1.

Stem 3—8 inches high, with the angles obtuse. *Leaves* shorter than the stem, linear-lanceolate, margins and midrib entire. *Spikelets* nearly sessile, somewhat capitate, oblong-lanceolate, many flowered (16—27.) *Glumes* not mucronate, the keel green, sides membranous, nearly white. *Filaments* 3. *Style* 3 cleft.

The glumes are sharply acuminate, but not mucronate as represented in Sloan's figure; neither is the panicle, with us, in general so much divided. In other respects the representation is good. The C. compressus of Vahl and Pursh, (1. p. 51.) appears to be a different plant.

Grows in dry sandy pastures. Around Beaufort, common.
Flowers August—September.

7. BRIZÆUS. Richard.

C. spiculis oblongo-ovatis, obtusis; umbellulis confertis, aphyllis; foliis angustis. Rich. Linn. Soc. Paris, p. 106.	Spikelets oblong ovate, obtuse; partial umbels crowded, leafless; leaves narrow.

Pursh, 1. p. 51.

Grows in the swamps of Carolina.
Flowers July.

8. VEGETUS.

C. culmo gracili, obtuse triquetro; umbellis decompositis; spiculis ovalibus, sub globoso-	Stem slender, obtusely 3 angled; umbels decompound; spikelets oval, in compact globose

capitatis compactis; involucro longissimo. E.	heads; involucrum very long.

Sp. pl. 1. p. 283. Vahl. Enum. pl. 2. p. 326. Pursh, 1. p. 51.

Stem 2—3 feet high, nearly round. *Leaves* linear-lanceolate, channelled, finely serrulate near the summit, 2—3 feet long, 3—4 lines wide; sheath at base closed, marcescent. *Involucrum* 4 leaved, the lower leaves very long. *Flowers* in short, oval spikelets, generally 9 flowered, laterally appressed into compact heads. *Glumes* ovate, rather acute. *Styles* 3 cleft. *Seed* oval.

Grows in ponds and ditches 10 miles from Savannah, on the Augusta road. On James Island, and around Charleston. Not common.

Flowers June—September. *Compact-headed Cyperus.*

9. VIRENS. Mich.

C culmo acutissime triquetro; umbellis decomposits; spiculis ovato-lanceolatis, sub globoso-capitatis compactis; involucro longissimo. E.	Stem acutely 3 angled; umbels decompound; spikelets ovate-lanceolate, in compact globose heads; involucrum very long.

Mich. 1. p. 23.
Cyperus glomeratus, Walt. p. 70.

Stem 1—2 feet high, firmly erect, most acutely 3 angled; the angles scabrous near the summit, sides concave. *Leaves* linear-lanceolate, somewhat compressed, the margins and midrib serrulate, 2—3 feet long, 4—6 lines wide. *Spikelets* commonly 16 flowered, laterally appressed into compact heads *Glumes* lanceolate, acute. *Filament* 1? *Style* 3 cleft. *Seed* oblong, 3 angled.

This differs from the preceding species by being always a much larger plant, having a stem very acute, and larger spikes. It is certainly the C. virens of Michaux, but some other plant must have been described as the C. virens by Vahl and Pursh.

Grows in rich swamps. Common. If incautiously drawn through the hand, the stem will cut severely with its sharp angles.

Flowers May—Oct. *Sharp Grass.*

10. FILICULMIS.

C. spiculis linearibus, globoso-capitatis patentissimis; umbella sub-uniradiata; involucris tri-	Spikelets linear in globose heads, expanding; umbel generally one rayed; involucrum three-

phyllis culmisque setaceis. Vahl. Enum. pl. 2. p. 328.

leaved with the stem setaceous.

Pursh, 1. p. 51.

Grows in Carolina. Vahl.

11. MARISCOIDES.

C. spiculis lineari-lànceolatis, globoso-capitatis; umbella pauciradiata (1---2) vel 0; involucro sub 3-phyllo, prælongo, foliisque linearibus, canaliculatis. E.

Spikelets linear-lanceolate in globose heads; umbel with few rays (1---2) or 0; involucrum generally 3 leaved, very long and with the leaves linear and channelled.

Root somewhat bulbous. *Stem* glabrous, 1 foot high, naked. *Leaves* channelled, the margins and midrib serrulate, half as long as the stem. *Heads* terminal; sometimes one or two branches bear smaller heads. *Spikes* compressed, two rowed, 7 flowered. *Glumes* compressed, obtuse. *Stamens* 3. *Style* 3 cleft. *Seed* oblong, 3 angled; bristles 0.

To the preceding species this appears to have much affinity, but I have never seen its leaves or stem setaceous.

Grows in dry sandy soils. Around Beaufort, common.

Flowers June—September.

12. FLAVESCENS.

C. culmo obtuse triquetro; umbellis compositis; spiculis confertis, lanceolatis; glumis acutis. E.

Stem obtusely 3 angled; umbels compound; spikelets crowded, lanceolate; glumes acute.

Sp. pl. 1. p. 270.

Stem 8—12 inches high, smooth, shining, and with the whole plant of a yellowish hue. *Leaves* few, sheathing the base of the stem, linear, slightly channelled, the midrib and margin serrulate, particularly near the point. *Sheath*, at base closed. *Spikelets* lanceolate, 8—20 flowered. *Calyx* compressed, acute. *Filaments* 2? *Style* two cleft.

This plant which is generally considered in this country as the C. flavescens, differs from the character in the Sp. pl. by its obtuse stem and acute glumes.

Grows in wet soils. Very abundant along the margins of salt water coves.

Flowers July—October. *Yellow Cyperus.*

13. **Gracilis.** Muhl. Cat.

C. culmo gracili, acute triquetro; foliis triquetris; umbellis compositis; spiculis lineari-lanceolatis. E.	Stem slender, acutely 3 angled; leaves 3 angled; umbels compound; spikelets linear-lanceolate.

Root annual? *Stem* about 12 inches high, acutely 3 angled, tender, fragile. *Leaves* nearly as long as the stem; the margins entire, sides concave, sometimes compressed; sheath closed, marcescent. *Spikelets* generally 12 flowered. *Glumes* lanceolate, acute; midrib green, the sides marked with two red lines, and an intermediate yellow spot. *Style* 3 cleft.

Grows in damp soils, 2 miles from Beaufort near the main road.
Flowers September—October. *Slender Cyperus.*

14. **Hydra.** Mich.

C. radice tuberosa; culmo obtuse triquetro; foliis recurvis; umbellis simplicibus compositisque; spiculis linearibus. E.	Root tuberous; stem obtusely 3 angled; leaves recurved; umbels simple and compound; spikelets linear.

Mich. 1. p. 27. Vahl. Enum. pl. 2. p. 344. Pursh, 1. p. 52.

Root perennial, tuberous, creeping; tubers nearly half an inch in diameter. *Stem* 3—8 inches high, naked, glabrous, obtusely 3 angled. *Leaves* all from the root, sheathing the base of the stem, subulate, acute, slightly channelled, recurved, a little glaucous on the under surface. *Involucrum* 2—3 leaved. Scales of the *calyx* ovate, compressed, nearly acute, the keel green, the sides bright chesnut. *Filaments* 3, twice as long as the calyx. *Stigmas* 2. *Seed* 3 angled.

Grows in the drift sands along the margin of the ocean.
Flowers through the whole summer. *Nut-grass.*

This grass is becoming a great scourge to our planters. It shoots from the base of its stem a thread-like fibre, which descends perpendicularly 6—18 inches, and then produces a small tuber. From this, horizontal fibres extend in every direction, producing new tubers at intervals of 6 or 8 inches, and these immediately shoot up stems to the surface of the earth, and throw out lateral fibres to form a new progeny. This process is interminable, and it is curious to see what a chain or net-work of plants and tubers can with some care be dug up in a loose soil. The only process yet discovered by which this grass can be extirpated, is to plough or hoe the spots in which it grows every day through a whole season. In their perpetual efforts to throw their leaves to the light the roots become exhausted and perish, or if a few appear the next spring, they can easily be dug up. This experiment has been successfully tried by John M'Queen, Esq. of Chatham county, Georgia.

15. Repens. E.

C. radice repente; culmo triquetro; foliis glaberrimis; umbella simplici compositaque; spiculis confertis, lineari-lanceolatis. E.

Root creeping; stem 3 angled; leaves very glabrous; umbels simple and compound; spikelets crowded, linear-lanceolate.

Root creeping, throwing out suckers in every direction. *Stem* 12—18 inches high, 3 angled, with the sides concave, and the angles obtuse. *Leaves* long, narrow, thick, recurved, channelled, with the margins very entire. *Involucrum* 3—4 leaved, longer than the umbel, the leaves scabrous along the margins. *Umbel* generally simple, sometimes a little compound, many rayed. *Spikes* crowded, narrow, lanceolate, 10—12 flowered. *Glumes* slightly mucronate, yellowish. *Stamens* 3. *Style* 3 cleft.

Near to C. hydra, for which it is sometimes mistaken. It is however a larger plant, and creeps not by tubers, but by fibres from the root. The involucrum is proportionally much larger, the spikes more crowded, yellow not purple, wider, and the glumes more pointed than in the C. hydra.

Grows in the fields and pastures around Charleston.

Flowers July—September. *Creeping Cyperus.*

16. Tuberosus.

C. spiculis lineari-lanceolatis convexiusculis; involucro triphyllo, umbella quinqueradiata longiore. Vahl. Enum. pl. 2. p. 340.

Spikelets linear lanceolate, somewhat convex; involucrum 3 leaved, longer than the 5 rayed umbel.

Pursh, 1. p. 52.

Grows along the margins of rivers from Pennsylvania to Carolina. Roots eatable. Pursh. Found in Georgia by Dr. Baldwin. I have some suspicion that this and the preceding species are the same plant, and that they are the C. phymatodes of Muhlenberg.

17. TENUIFLORUS.

C. spicis corymbosis, spiculis linearibus convexiusculis; involucro umbella longiore; culmo folioso. Vahl. Enum, pl. 2. p. 347.	Spikes corymbose; spikelets linear, somewhat convex; involucrum longer than the umbel; stem leafy.

Sp. pl. 1. p. 284.
Pursh, 1. p. 52.
C. erythrorhizos? Muhl. Cat.

Stem 2—3 feet high, nearly terete. *Leaves* as long as the stem, 5—6 lines wide, channelled, with the margins serrulate; the sheaths inclosing the stem at base, but only connected with it at the roots. *Involucrum* many leaved, 4 longer than the umbel, the 2 exterior very long; the *small involucrum* linear or setaceous, short. *Spikes* linear, 12—20 flowered, very slender and delicate, glossy, chesnut-coloured. *Flowers* very minute, much crowded along the whole of the partial rays. *Filaments* frequently 2.

Grows in rice fields, ditches, &c.
Flowers August—October.

18. ODORATUS.

C. spicis corymbosis; spiculis subulatis, remotis, distichis; valvulis subdistantibus; umbellis patentissimis involucellum subæquantibus. Vahl. Enum. pl. 2. p. 356.	Spikes corymbose; spikelets subulate, remote, distichous; valves somewhat distant; umbels expanding, as long as the small involucrum.

Sp. pl. 1. p. 284.
Pursh, 1. p. 52.

Grows along the banks of rivers from Pennsylvania to Florida.
Flowers August.

19. STRIGOSUS.

C. spicis oblongis laxis; spiculis subulatis, patentibus, remotiusculis; involucellis subnullis; um-	Spikes oblong loose; spikelets subulate, expanding, a little remote; small involucrums gene-

bellulæ radiis alternis. Vahl. Enum. pl. 2. p. 368.	rally wanting; partial umbels with alternate rays.

Sp. pl. 1. p. 281.
Mich. 1. p. 28.
Pursh, 1. p. 52.

Stem 2—3 feet high, 3 angled. *Leaves* long, rather delicate, with minute serratures along the margin. *Involucrum* with two or three leaves longer than the umbel. Rays of the *umbel* 5 or more. *Spikelets* scattered near the summit of the rays, linear, subulate, many flowered (14—24). *Valves* slightly mucronate.

As the spikelets seem scattered along the *common*, there is no *small*, involucrum, and it is often a minute setaceous leaf.

Grows in swamps and ditches.

Flowers August—October.

20. TETRAGONUS. E.

C. spicis oblongis, cylindricis; spiculis subtetragonis, paucifloris; involucro longissimo; involucellis 0.	Spikes oblong, cylindrical; spikelets somewhat 4 angled, few flowered; small involucrum wanting.

Stem 2—3 feet high, naked; angles near the umbel a little scabrous. *Leaves* 12—18 inches long, 3 lines wide, channelled, the margins and midrib serrulate. *Umbels* many rayed, racemes about an inch long at the extremity of the rays, several sessile in the centre of the umbel. *Spikes* 3—5 flowered. From the width of the rachis the spike is distinctly 4 angled. *Glumes* compressed, nerved, slightly mucronate. *Stamens* 3. *Style* 2 cleft. *Seed* oblong, 3 angled. *Bristles* 0.

Found on Edings' Island; also near St. Mary's, by Dr. Baldwin. Rare to me.

21. FLAVICOMUS ? Mich.

C. culmo triquetro; umbellis compositis; spiculis lineari-lanceolatis; glumis obtusis, subemarginatis. E.	Stem 3 angled; umbels compound; spikelets linear-lanceolate; glumes obtuse, somewhat emarginate.

Mich. 1. p. 27. Pursh, 1. p. 53 ?

Plant very glabrous. *Stem* 1—3 feet high, 3 angled, with the angles obtuse. *Leaves* linear-lanceolate, channelled, nearly as long as the stem, slightly serrulate near the summit; a little glaucous underneath; sheath closed, marcescent. *Involucrum* very long, glaucous, with the keel and margins green. *Spikes* 10—12 flowered, expanding. *Glumes* abruptly obtuse. *Style* 2 cleft. The *umbels* exhibit generally a yellowish hue, but many of the spikes are tinged near the base with a dull leaden colour.

Grows in rich soils, near buildings. Vall'Ombrosa, Great Ogechee, and around Charleston. In bogs it becomes a large plant, 2--3 feet high, thick and succulent; in dry soils, even where not sandy, it rarely exceeds 12—15 inches in height.

Flowers May—September. *Yellow-spiked Cyperus.*

22. DISTANS.

C. spicis distichis, spiculis filiformibus, patentibus; flosculis distantibus; umbella stricta. Vahl. Enum. pl. 2. p. 362.	Spikes distichous; spikelets filiform, expanding; florets distant; umbel strait.

Sp. pl. 1. p. 288.
Pursh, 1. p. 53.

Appears to be nearly allied to C. strigosus, but I have seen no species in this country with the spikes arranged in two rows on the common peduncle.

Grows in sandy and wet woods, Carolina and Georgia. Pursh.

Flowers

23. SPECIOSUS.

C. spicis corymbosis, spiculis subulatis, distichis; umbellulis involucello brevioribus; ocreis biaristatis; culmo acutangulo. Vahl. Enum. pl. 2. p. 364.	Spikes corymbose; spikelets subulate, distichous; partial umbels shorter than the small involucrums; ocreas two awned; stem acutely agled.

Pursh, 1 p. 53.

Stem 2—4 feet high, not very acutely angled. *Leaves* 1—2 feet long, 5—6 lines wide, deeply chanelled, somewhat glaucous underneath; the margins, midrib, and angles of the channel serrulate; sheath closed, shrivelling. *Flowers* in subulate spikelets, attached on every side to a common peduncle, horizontal and sometimes divariacate. *Spikelets* 6—8 flowered. Rays of the umbel many, alternate. *Involucrum* many leaved, very long; *small involucrums* longer than the partial umbels. Common *peduncles* sheathed at base; the sheaths (ocreæ) terminating in two segments, which on the larger branches are subulate and nearly an inch long, on the smaller branches

they resemble awns. *Glumes* oblong appressed. *Filaments* 3. *Style* 3 cleft. *Seed* 3 angled, compressed, slightly incurved.
Grows in ditches and wet places.
Flowers August—October.

24. Enslenii. Pursh.

C. spicis corymbosis, oblongis, basi ramosis, nudis; spiculis numerosis, divaricatis, confertis, linearibus, subsexfloris; valvulis oblongis, striatis; involucro octophyllo, umbellam subæquante. Pursh, 1. p. 53.

Spikes corymbose, oblong, branching at base, naked; spikelets numerous, divaricate, crowded, linear, generally six flowered; valves oblong, striate; involucrum 8 leaved, as long as the umbel.

Stem 3 angled. *Leaves* linear, 3 nerved, glabrous, with the keel and margin scabrous, shorter than the stem. *Involucrum* about 8 leaved, the interior shorter, the exterior longer than the rays of the the umbel. *Spikelets* very numerous, horizontal, chesnut-coloured. Is it a variety of C. speciosus? Pursh.
Grows in ditches and around ponds.
Flowers August.

DULICHIUM. Richard.

Spicæ subracemosæ, ex axillis foliorum. *Spiculæ* lineari-lanceolatæ, subcompressæ. *Stylus* longissimus, bifidus. *Germinis* setulæ retrorsum asperæ.

Spikes somewhat racemose, growing from the axils of the leaves. *Spikelets* linear-lanceolate, compressed. *Style* very long, 2 cleft. Bristles of the *germ* retrosely roughened.

1. Spathaceum.

D. culmo tereti, trifariam folioso; spiculis patulis, subulatis, in racemis axillaribus. E.

Stem columnar, with leaves pointing in three directions; spikelets expanding, subulate, in axillary racemes.

Persoon, 1. p. 65.
Cyperus spathaceus, Sp. pl. 1. p. 289. Big. p. 16.
Clayton, p. 9. No. 562.
Scirpus spathaceus, Mich. 1. p. 32.

Stem columnar, striate, 12—18 inches high. *Leaves* linear-lanceolate, flat, margins serrulate, 2—3 inches long, 2—3 lines wide, always pointing in three directions; sheath at base shorter than the joints, loose, closed. *Flowers* in subulate spikelets 6—7 flowered, forming axillary racemes, simple, sometimes compound; common peduncle just as long as the sheaths of the leaves. *Glumes* linear-lanceolate, very acute. *Filaments* 3. *Style* 2 cleft, persistent. *Seed* oblong, 3 angled, surrounded by 6 bristles scabrous and longer than the seed.

Grows in wet sandy soils. Common.

Flowers August—September. *Sheathed Dulichium.*

MARISCUS.

Spicæ subteretes, in capitulis aggregatis. *Stamina* 3. *Stylus* 3-fidus. *Semen* triquetrum, nudum.

Spikes nearly terete, clustered in heads. *Stamens* 3. *Style* 3 cleft. *Seed* 3 angled, naked.

1. Retrofractus.

M. culmo obtuse triquetro, pubescente; umbellis simplicibus; capitulis obovatis; spicis subulatis, unifloris, reflexis. E.

Stem obtusely 3 angled, pubescent; umbels simple; heads obovate; spikes subulate, 1 flowered, reflexed.

Scirpus retrofractus, Sp. pl. 1. p. 304.

Stem naked, 2 feet high. *Leaves* linear, about one foot long, pubescent. *Spikes* terete, subulate, generally 3 flowered, of which the lower and upper are abortive. *Glume* of the lower flower obtuse, of the 2 superior ones acute. *Filaments* 3, adhering to the germ. *Style* 3 cleft. *Seed* oblong, 3 angled, without bristles.

Grows in dry soils. Common in cultivated land.

Flowers through the summer.

2. Cylindricus. E.

M. culmo obtuse triquetro, glabro; umbellis simplicibus; capitulis cylindricis; spicis lanceolatis, sub-compressis, paucifloris (2---5), patentibus. E.

Stem obtusely 3 angled, glabrous; umbels simple; heads cylindrical; spikes lanceolate, somewhat compressed, few flowered (2---5), expanding.

Stem naked, 2—3 feet high. *Leaves* 1 foot long, linear, channelled, glabrous, the margins and midrib towards the summit acutely serrulate. *Spikes* 2—5 flowered, compressed, flowers distichous. *Glumes* compressed, acute, nerved, keeled, loosely imbricate. *Seed* oblong, 3 angled, acute at each end, without bristles.

This plant resembles the M. echinatus. Its spikes however are smaller, and more crowded, the flowers on each spike less numerous, and the heads cylindrical.

Grows in cultivated land of almost every description.

Flowers through the summer.

3. ECHINATUS.

M. culmo obtuse triquetro, glabro; umbellis simplicibus; capitulis globosis; spicis lineari-lanceolatis, suboctofloris (6---8), patentibus. E.	Stem obtusely 3 angled, glabrous; umbels simple; heads globose spikes linear-lanceolate; eight flowered, expanding.

Scirpus echinatus, Sp. pl. 1. p. 304.
Kyllingia ovularis? Mich. 1. p. 29.

Stem naked, 1—2 feet high. *Leaves* similar to those of M. cylindricus. *Spikes* linear-lanceolate, 6—8 flowered, compressed, forming a perfectly globular head. *Flowers* in two rows. *Glumes* acute. *Filaments* 5. *Style* 3 cleft. *Seed* 3 angled, without bristles.

Grows in cultivated land. Very common.

Flowers through the summer.

SCIRPUS. GEN. PL. 95.

Glumæ paleaceæ, undique imbricatæ. *Corolla* 0. *Semen* 1.	*Glumes* chaffy, imbricate on all sides. *Corolla* 0. *Seed* 1.
* *Spica unica, terminali.*	* *Spike solitary, terminal.*

1. CAPILLACEUS. Mich.

S. culmo tereti, pusillo; spica ovata, acuta; glumis acutis; semine compresso, obovato. E.	Stem terete, minute; spike ovate, acute; glumes acute; seed compressed, obovate.

Mich. 1. p. 30.
S. pusillus, Vahl. Enum. pl. 2. p. 245. Pursh, 1. p. 54.

Root annual? *Stem* erect and procumbent, 1—3 inches high, slightly furrowed. *Leaves* 0, but a sheath surrounding the base of the stem. Midrib of the *glumes* green; sides ferruginous; margins white, membranous; the two lower scales generally shorter. *Filaments* 3. *Germ* crowned with a small conic tubercle. *Style* 2—3 cleft. *Bristles* 6, pellucid, a little longer than the germ.

Grows in patches sometimes 1 and 2 feet in diameter, clothing the ground like moss, and preferring places that have recently been abandoned by water.

Flowers March—June. *Minute Scirpus.*

2. TRICHODES. Muhl. Cat.

S. culmo setaceo; spicis ovato-lanceolatis; glumis subobtusis; semine triquetro. E.	Stem setaceous; spikes ovate-lanceolate; glumes generally obtuse; seed 3 angled.

S. acicularis? Pursh, 1. p. 54.

Stem 6—8 inches high, setaceous, glabrous. *Glumes* ovate-lanceolate, nearly white. *Seed* obovate, 3 angled, longitudinally ribbed? tubercle very small.

Described from specimens found by Dr. Trescott, near Charleston.

Flowers June—July. *Hear-like Scirpus.*

3. SIMPLEX. E.

S. culmo tereti; spica subovata; glumis obtusis; semine obovato, triquetro.	Stem columnar; spike somewhat ovate; glumes obtuse; seed obovate, 3 angled.

Root perennial. *Stem* erect, 8—13 inches high, glabrous, (striate when examined with a lens.) *Leaf* 0, but a short marcescent sheath at the base of the stem. *Glumes* subovate, obtuse, nearly white; midrib scarcely distinct. *Stigmas* 3, slightly feathered, glandular. *Seed* crowned with a very small 3 angled tubercle. *Bristles* glandular, as long as the seed.

Grows in wet places, bogs, &c. Has some affinity to S. capillaceus, but differs much in size, and by its obtuse spike and glumes. Resembles S. tuberculatus in size and appearance, but differs in the seed.

Flowers through the summer.

4. FILIFORMIS.

S. spica cylindrica, oblonga, obtusa, squamis subrotundis; seminibus,	Spike cylindric, oblong, obtuse, with the scales nearly round; seeds

vertice nudis; culmis filiformibus, teretibus. Vahl. Enum. pl. 2. p. 248.	naked at the summit; stems filiform, terete.

Pursh, 1. p. 54.

Grows in wet places, ditches, &c. from New-Jersey to Carolina. Pursh.

Flowers July—August.

5. Palustris.

S. culmo tereti, striato, nitido; spica oblongo-lanceolata; glumis subobtusis; semine obovato, compresso, glabro; setulis scabris. E.	Stem columnar, striate, shining; spike oblong-lanceolate; glumes somewhat obtuse; seed obovate, a little compressed, glabrous; bristles scabrous.

Sp. pl. 1. p. 291. Pursh, 1. p. 54.

Root creeping, perennial. *Stem* 1—2 feet high, very glabrous. *Leaf* 0, but generally 3 sheaths enclose the stem; the interior 6—8 inches long, glabrous, obliquely truncate, toothed at the summit, closed; the 2 exterior loose, marcescent, much shorter. *Spike* often oblique. *Glumes* oblong-ovate, midrib green, margins membranous. *Seed* crowned with a compressed conical tubercle, a little smaller than the germ. *Bristles* 3—4, longer than the germ, roughened with small teeth ? bent backwards.

Grows in rice fields, fresh marshes, &c.

Flowers April—May. *Bog Scirpus.*

6. Geniculatus.

S. spica ovato-oblonga, squamis ovato-subrotundis; culmis teretibus, approximate interstinctis. Vahl. Enum. pl. 2. p. 250.	Spike ovate-oblong, scales ovate and nearly round; stems terete, growing in distinct clusters.

Sp. pl. 1. p. 291. Pursh, 1. p. 55.

Grows on the sea shore of South-Carolina. Pursh.

Flowers July.

7. Capitatus.

S. culmo subtereti, sulcato; spica obtusissi-	Stem nearly columnar, furrowed; spike obtusely

me ovata; semine obovato, compresso. E.	ovate; seed obovate, compressed.

Sp. pl. 1. p. 95. Pursh, 1. p. 55? Walt. p. 70. Clayton.

Stem erect, 8—18 inches high, glabrous, inflated. *Leaf* 0; a marcescent sheath about 1 inch long clothing the base of the stem. *Spike* very obtuse, sometimes nearly globose, *Glumes* round, coriaceous, the midrib at first green, then with the sides rufous, margins membranous. *Tubercle* compressed, ovate, equalling, or longer than the germ, smaller than the mature seed. *Bristles* 6, as long as the glumes, scabrous.

Grows in bogs and damp soils. Found in abundance in spots occasionally overflowed with salt water.

Flowers through the summer, *Round-headed Scirpus.*

8. TUBERCULATUS. Mich.

S. culmo tereti, striato; glumis obtusissimis, laxe appressis; semine subtriquetro, tuberculo sagittato seipso majore, coronato.	Stem columnar, striate; glumes very obtuse, loosely appressed; seed somewhat 3 angled; tubercle sagittate, larger than the seed.

Stem about 12 inches high, sheathed at base with one or two membranous marcescent scales, 1—2 inches long. *Spike* ovate-lanceolate. *Glumes* nearly round, with the margin scarious, midrib green. *Stamens* 2? *Tubercle* much larger than the germ, as large as the mature seed. *Seed* striate. *Bristles* 6, as long as the tubercle, glandular, feathered.

Grows in damp and wet soils.

Flowers July—August.

9. QUADRANGULATUS. Mich.

S. culmo acute quadrangulato, lateribus tribus concavis, uno latiore, plano; spica cilyndrica; glumis obtusissimis.	Stem acutely four angled, three sides concave, one wider, flat; spike cylindrical; glumes very obtuse.

Mich. 1. p. 30. Pursh, 1. p. 55.

Root creeping, perennial. *Stem* erect, 1—2 feet high, glabrous, the sides sometimes all unequal in width; clothed at base with 2 membranous sheaths; the interior 3—4 inches long, closed; the exterior 1—2 inches long, open, marcescent. *Spike* an inch or more long, cylindrical. *Glumes* nearly round, the midrib green, sides ferruginous, the margins scarious. *Filaments* 3, very short. *Style* a little dilated at base, scarcely forming a tubercle. *Bristles* 3, setaceous, longer than the germ.

Grows in swamps and bogs. In rice fields it becomes a very injurious intruder, as its thick creeping roots occupy the ground, and permit nothing to grow where they extend. This is a very different plant from the S. tenuis of Muhl. Cat.

Flowers April—May. *Four-angled Scirpus.*

10. EQUISETOIDES. E.

S. spica cylindrica, terminali, squamis obtusissimis; culmis teretibus, duplicato-articulatis. E.	Spike cylindrical, terminal, scales very obtuse; stems terete, doubly jointed.

Stem erect, 18—24 inches high, terete, glabrous, slightly roughened over the whole surface with small tubercles depressed in the middle, distinctly jointed at intervals of 1½ or 2 inches, with several obscure intermediate joints, clothed at base with 2 glabrous sheaths, and terminating in a cylindrical spike an inch long. *Scales* very obtuse, scarious along the margin, with a purple border just below the membranous margins. *Style* 2 cleft, forming at base a slender tubercle nearly the size of the germ.

This plant, excepting that it wants stipules, bears at first sight so striking a resemblance to the Equisetum hyemale, that at the suggestion of Dr. Macbride I have derived its name from this circumstance. With the preceding species it might form a distinct section; the structure of their spikes and flowers are so peculiar and so exactly alike.

For specimens of this plant I am indebted to the Rev. Mr. Lewis de Schweinitz of Salem, North-Carolina, who collected it near Fayetteville in that state. It was recognized immediately by Dr. Macbride as an inhabitant of St. Johns. It grows on the eastern edge of the public road, in water, seven or eight rods to the south of Frierson's lock, Santee Canal.

Flowers June.

** *Spicis pluribus.*	** *Spikes numerous.*
a. aphyllis.	*a. without leaves.*

11. DEBILIS. Muhl. Cat.

S. culmo triquetro, erecto; spiculis paucis, aggregatis, sessilibus, terminalibus; glumis membranaceis, mucronatis; involucro erecto. E.	Stem 3 angled, erect; spikes few, aggregate, sessile, terminal; glumes membranaceous, mucronate; involucrum erect:

Pursh, 1. p. 55 ?

Root perennial, cespitose. *Stem* 12—18 inches high, obtusely 3 angled, glabrous, with 1—3 sheaths, loose at base, and slightly mucronate. *Involucrum* 2—3 inches long, erect. *Spikes* generally 3, ovate. *Glumes* ovate, membranous, somewhat inflated, mucronate. *Seed* obovate, flattened on one side, transversely striate, pointed with the persistent style. *Bristles* 6 ? longer than the seed.

Grows in the upper country. Brought from Greenville by Mr. Moulins.

Flowers September. *Weak-stalked Scirpus.*

12. AMERICANUS. Persoon.

S. culmo triquetro, lateribus concavis ; spicis ovatis, lateralibus, sessilibus ; semine acuminato. E.	Stem 3 angled, sides concave ; spikes ovate, lateral, sessile ; seed acuminate.

Pursh, 1. p. 55. S. triqueter, Mich. 1. p. 30.
S. mucronatus, Walt. p. 70.

Root thick, creeping. *Stem* 2—3 feet high, glabrous, the sides concave, margins entire. *Sheaths* 1—3, 2—3 inches long, acute, keeled, sheathing the base of the stem. *Spikes* ovate, 6—8 clustered on each stem. *Glumes* ovate, ferruginous, with the margins scarious. *Seed* obovate, flat on one side, convex on the other, with the apex acuminate, not tubercled. *Bristles* 6, glandular, hairy, longer than the germ.

This appears to be an intermediate species between S. triqueter and mucronatus. It differs from the former, by its concave sides and sessile spikes ; from the latter, by its erect stem and small number of spikes.

Grows in damp soils. Very common.

Flowers through the summer.

13. MUCRONATUS.

S. aphyllus, spicis oblongis, squamis integerrimis, mucronato-acuminatis ; culmo triquetro. Vahl. Enum. 2. p. 256.	Without leaves ; spikes oblong, scales entire, acuminate ; stem 3 angled.

Sp. pl. 1. p. 303. Pursh, 1. p. 55.

Stem with the angles compressed, the summit much longer than the flowers, and bent to one side. Linn.

Grows in swamps and salt marshes, from Canada to Carolina. Pursh.

Flowers August.

14. Lacustris.

S. aphyllus, spicis oblongis, squamis glabris, mucronatis; stylis trifidis; umbella decomposita; culmo tereti. Vahl. Enum. pl. 2. p. 267.

Without leaves; spikes oblong, scales glabrous, mucronate; styles 3 cleft; umbels decompound; stem terete.

Sp. pl. 1. p. 296. Mich. 1. p. 31. Pursh, 1. p. 55.

Stem erect, 4—12 feet high, sometimes from 1 to 2 inches in diameter, glabrous, glaucous, striate. *Spikes* numerous, ovate, umbellete, frequently 3 or 4 clustered together on the summits of the peduncles. Common *involucrum* 2 leaved, unequal, apparently formed by the extension of the stem, shorter than the umbel. *Glumes* lanceolate., a little plaited at the summit, ciliate. *Style* long, 2 cleft. *Seed* obovate, plano-convex, smooth, pointed with the persistent style. *Bristles* 6, longer than the seed, with small teeth bent backwards.

This description perhaps belongs to the following species, yet the scales, though slightly fringed and a little roughened, are never villous.

Grows generally in the marshy margins of rivers. Near the mouth of Savannah river I have seen the largest specimens.

Flowers through the summer. *Large marsh Scirpus.*

15. Validus.

S. aphyllus, spicis ovato-oblongis; squamis dorso villosis; stylis bifidis; umbella decomposita; involucro brevissimo apice tereti. Vahl. Enum. pl. 2. p. 268.

Leafless; spikes ovate oblong; scales villous on the back; styles 2 cleft; umbel decompound; involucrum very short, terete at the summit.

Pursh, 1. p. 56.

Grows in lakes and ponds, from Canada to Carolina.
Flowers August.

**** Culmis ad basin foliosis.**	**** Stem leafy at base.*

16. MINIMUS.

S. spicis ovatis, acutis, subsolitariis; culmis foliisque capillaribus, curvatis. Vahl. Enum. pl. 2. p. 253.	Spikes ovate, acute, frequently solitary; stem and leaves capillary, curved.

Pursh, 1. p. 55.

Grows in wet sandy fields, and near ponds, from Virginia to Carolina. Pursh.

Flowers July.

17. AUTUMNALIS.

S. culmo compresso, ancipiti; spiculis lanceolatis. E.	Stem compressed, 2 edged; spikelets lanceolate.

Sp. pl. 1. p. 301. Pursh, 1. p. 37.
S. mucronulatus, Mich. 1. p. 31.

Root annual? *Stem* erect, 8—10 inches high, very much compressed, finely serrulate along the margins near the summit. *Leaves* linear, acute, flat, slightly channelled, serrulate near the point, as long as the stem; the throat of the sheath slightly bearded. *Umbels* compound. *Spikes* small, lanceolate, a little rough. *Glumes* lanceolate, acute, slightly mucronate, and the summits after flowering slightly reflexed. *Style* 3 cleft. *Seed* 2 angled, glabrous.

Grows in damp soils. Very common.

Flowers August—October. *Autumnal or flat-stemmed Scirpus.*

18. CILIATIFOLIUS. E.

S. culmo tereti, striato; foliis linearibus, canaliculatis, ciliatis; spicis ovatis, acutis; involucro brevissimo. E.	Stem columnar, striate; leaves linear, channelled, ciliate; spikes ovate, acute; involucrum very short.

S. capillaris? Muhl. Cat.

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* In this division I have found no bristles surrounding the seed. Some of the species from their fimbriate, deciduous styles have been made to constitute the genus Fimbristylis. But it is doubtful whether these characters afford more than specific distinctions, and whether they do not separate species most closely allied by habit.

Root annual? *Stem* 6—8 inches high, very slender. *Leaves* linear, channelled, striate, ciliate, margins rough, nearly as long as the stem; sheath open at base, a little contracted at the throat, ciliate. *Stipules* bearded. *Umbels* compound. The leaf of the *involucrum* half the length of the umbel, the others very minute. *Spikes* ovate-lanceolate, acute, small. *Glumes* lanceolate, acute, with a short point. *Stigmas* 2. *Seed* obovate, 3 angled, finely furrowed transversely, and crowned with a small tubercle.

In this species the leaves are ciliate, not serrulate, the spikes acute, and the glumes glabrous, entire. In its general appearance and size it resembles S. autumnalis.

Grows in damp soils. Two miles from Beaufort, near the main road.

Flowers September—October. *Fringe-leaved Scirpus.*

19. STENOPHYLLUS. E.

S. culmo filiformi, obtuse triquetro; foliis setaceis; involucro 4 phyllo, prælongo; spicis aggregatis; glumis longe mucronatis. E.

Stem filiform, obtusely 3 angled; leaves setaceous; involucrum 4 leaved, very long; spikes clustered; glumes mucronate.

Dichroma cæspitosum, Muhl. Cat.

Root fibrous, annual. *Stem* erect and procumbent, 3—4 inches high, glabrous, obtusely 3 square, growing in small dense tufts. *Leaves* few, setaceous, somewhat 3 angled, roughened along the edge, nearly as long as the stem, hairy at the throat of the sheath. *Spikes* generally 6 flowered, (4—6) sessile, clustered, terminal. *Involucrum* 4 leaved, unequal, nearly as long as the stem; a smaller leaf generally guards the base of each spike. *Glumes* lanceolate, acuminate, mucronate, keeled; the keel roughened, terminating in a long point, slightly reflexed, green, the margins ferruginous. *Stamen* 1? *Style* 3 cleft. *Seed* 3 angled, transversely striate, crowned with a very small tubercle.

Grows in dry sandy soils. Around Beaufort, common. James Island.

Flowers July—September. *Thread-leaved Scirpus.*

20. COARCTATUS. E.

S. umbella composita, coarctata; spicis parvulis, lineari-lanceolatis; ininvolucro setaceo foliolo

Umbel compound, crowded; spikes small, linear-lanceolate; involucrum setaceous, with

uno umbella longiore; foliis filiformibus, hinc concavis. E.	one of its leaves longer than the umbel; leaves filiform, concave on 1 side.

S. castaneus, Muhl. Cat.

Stem filiform, 1 foot high, generally bending. *Leaves* glabrous, sheaths open, the beard of the throat long. *Umbel* compound, 3—4 spikes on each branch, one generally sessile in the division. *Involucrum* many leaved, leaves setaceous, scabrous along the margins, a little hairy at base: one only longer than the umbel. *Glumes* ovate-lanceolate, a little pointed, near the summit margined with a very short fringe, ferruginous; the midrib prominent, greenish. *Style* deeply 3 cleft. *Seed* obovate, 3 angled, with little or no tubercle.

This has usually been considered as the S. castaneus of Michaux but it is certainly a different plant.

Grows in very dry sandy soils. Around Beaufort, common.

Flowers September—October.

21. CASTANEUS. Mich.

S. spicis ovato-oblongis, obtusis; involucro diphyllo, rigido, umbellam subcompositam æquante. Vahl.	Spikes ovate oblong, obtuse; involucrum 2 leaved, rigid, as long as the compound umbel.

Mich. 1. p. 31.

Fimbristylis castaneum, Vahl. Enum. pl. 2. p. 92.

Stem nearly terete, striate. Radical *leaves* very narrow, long, erect, somewhat rigid. *Umbel* terminal, surrounded with several erect bracteas; branches 1—4 spiked. *Spikes* ovate, nearly round, of a dark chesnut colour. *Scales* nearly orbicular, few. *Styles* fimbriate, 2 cleft. Mich.

Grows in Florida, Mich.—in Carolina, Pursh.

Flowers July.

22. SPADICEUS.

S. spicis ovato-lanceolatis; involucro rigido, foliolo uno umbellam superante; foliis subulatis, semiteretibus, striatis. E.	Spikes ovate-lanceolate; involucrum rigid, with one leaf longer than the umbel; leaves subulate, somewhat terete, striate.

Sp. pl. 1. p. 305.

Fimbristylis spadiceum, Vahl. Enum. pl. 2. p. 294. Pursh, 1. p. 49.

Root forming a thick, compact tuft. *Stems* crowded, 2—3 feet high, nearly round at base. *Leaves* 12—18 inches high, 1 line in diameter, concave on the interior surface, margins a little rough, sheathing the base of the stem in two rows; sheaths dilated; throat of the sheath without hair. *Umbel* as in the succeeding species. Leaves of the *involucrum* subulate, one twice as long as the umbel, scarcely roughened along their margins. *Glumes* nearly round, rigid, glabrous. *Style* fimbriate, 2 cleft, deciduous.

Grows along the margins of salt water. This has generally been confounded with the succeeding species; it differs essentially in its leaves, and grows in dense bunches, like the Juncus effusus. It forms a great part of our salt rushes, and is probably confined to the neighbourhood of the ocean.

Flowers through the summer. *Salt-water Rush.*

The figure in Sloan, (vol. 1. tab. 76. f. 2.) represents this species remarkable well; the spikes are not in this figure, nor have they ever appeared to me, terete as described by Vahl.

23. FERRUGINEUS.

S. culmo compresso, angulis superne scabris; foliis concavis; involucro inæqualiter ciliato; spicis rotundato-lanceolatis. E

Stem compressed, angles near the summit scabrous; leaves concave, those of the involucrum unequally ciliate; spikes lanceolate, nearly round.

Sp. pl. 1. p. 304. S. puberulus, Mich. 1. p. 31.
Fimbristylis puberulum, Vahl. Enum. pl. 2. p. 289. Pursh, 1. p. 49.

Stem almost solitary, firmly erect, 1—3 feet high, somewhat compressed: angles near the summit irregularly roughened. *Leaves* erect, 1 foot long, 3 lines wide, coriaceous, concave, with the margin cartilaginous, serrulate: throat of the sheath furnished wih a short fringe; the leaves sheath each other as if two rowed (distichous). *Umbels* compound, 3—7 spikes on each branch, one commonly sessile in the division of the branches. *Involucrum* like the leaves, the margins irregularly and sharply ciliate; one leaf longer than the umbel, the partial involucrums shorter than the small umbel. *Glumes* nearly round, coriaceous, rigid, with a short point, pubescent and fringed, uniformly ferruginous. *Style* 2 cleft, fimbriate, deciduous. *Stigmas* plumose, white. *Seed* obovate, compressed, acute at each end.

In this species many of the lower glumes are sterile.

Grows along the margins of salt water, but is not confined to such soils. Louisville, Georgia. Mr. Jackson.

Flowers through the summer. *Downy-flowered Scirpus.*

24. Sulcatus. E.

S. spicis ovato-lanceolatis, interdum acuminatis; umbella composita involucrum subæquante; semine longitudinaliter sulcato.

Spikes ovate-lanceolate, sometimes acuminate; umbel compound, as long as the involucrum; seed longitudinally furrowed.

Stem about 1 foot high, terete, glabrous. *Leaves* as long as the stem, concave, glabrous, finely serrulate. *Umbel* small, with some of the branches occasionally divided. Leaves of the *involucrum* very small, subulate. *Spikes* long, ovate-lanceolate. *Glumes* membranaceous, not rigid, scarcely coloured, slightly mucronate. *Styles* 2 cleft. *Stigmas* slightly feathered. *Seed* obovate, compressed, deeply furrowed longitudinally with very slight transverse furrows. The edges of the *seed*, and a small circle near the summit, toothed by tubercles. *Bristles* 0.

The glumes drop off as the seed ripens, leaving the base of the rachis naked.

For my first knowledge of this plant I was indebted to Dr. Baldwin, who sent me specimens from Savannah. I have since found it near Charleston.

Grows in damp soils.

Flowers August—September. *Furrowed Scirpus.*

**** *Culmis foliosis.*

**** *Stems leafy.*

25. Maritimus.

S. culmo triquetro; panicula conglobata, foliacea; glumis terminalibus mucronatis, laceris, trifidis. Smith, Fl. Brit. 1. p. 56.

Stem 3 angled; panicle clustered, leafy; terminal glumes mucronate, lacerate, 3 cleft.

Sp. pl. 1. p. 306. Mich. 1. p. 32.
S. robustus, Pursh, 1. p. 56.

Stem 3—4 feet high, acute, 3 angled. *Leaves* 2—4 feet long, glabrous, serrulate, channelled. *Panicle* terminal, clustered, 4—6 spikes setting, 2—3 pedunculate; spikes very large, ovate. *Scales* ovate, all of them a little toothed near the summit, the midrib extending to a long reflexed awn, dark chesnut. *Filaments* 3, persistent. *Seed* 3 angled, obovate, glabrous, tapering at base, and armed with a small point at the summit, the remains of the decaying style.

Grows in brackish marshes. Little Ogechee bridge, 7½ miles from Savannah.

Flowers May—June. *Maritime Scirpus.*

26. EXALTATUS. Pursh.

S. spicis brevi-ovatis, congestis; umbella composita; involucro folioso umbellam superante; involucellis brevissimis. E	Spikes short ovate, clustered; umbel compound; involucrum leafy, longer than the umbel; small involucrums very short.

Pursh, 1. p. 56. S brunneus, Muhl. Cat.

Stem obtusely 3 angled. *Leaves* long, 3—4 lines wide, glabrous, finely and sharply serrulate. *Involucrum* many leaved, resembling the leaves of the stem. Small *involucrums* very minute or wanting. (Scales of the *calyx* rhomboidal, keeled, mucronate, coloured. Pursh.)

Varies, *b. viviparus* with a stem very tall, somewhat scandent; umbels viviparous, bearing flowers at the base of the branches. Pursh.

Grows in shady woods. New-York to Carolina. The viviparous variety frequently attains the height of ten feet and upwards. Pursh.
Flowers July—August.

27. NITENS.

S. spicis ovatis, pedicillatis; corymbis subcompositis, axillaribus terminalibusque; culmo tereti. Vahl. Enum. pl. 2. p. 272.	Spikes ovate, pedicellate; corymbs generally compound, axillary and terminal; stem terete.

Pursh, 1. p. 56.

Grows in Virginia and Carolina. Pursh.
Flowers July.

28. LINEATUS. Mich.

S. culmo triquetro, folioso; umbellis decompositis, terminalibus lateralibusque, suberectis; spiculis ovatis; squamis lanceolatis, subcarinatis. E.	Stem 3 angled, leafy; umbels decompound, terminal and lateral, somewhat erect; spikelets ovate: scales lanceolate, slightly keeled.

Mich. 1. p. 32. Pursh, 1. p. 56.
S. pendulus ? Muhl. Cat.
Trichophorum lineatum, Persoon, 1. p. 69.

Stem 2—3 feet high, glabrous, 3 angled, leafy. *Leaves* rather long, and somewhat lanceolate, slightly channelled, with margins serrulate; sheath loose but closed; stipules 0. *Flowers* in axillary umbels; common peduncle much longer than the sheath, slender, weak. *Glumes* ferruginous, pointed by the green midrib. *Stamens* 3. *Style* 3 cleft. *Seeds* 3 angled, naked.

I can perceive no difference between this plant and a specimen of the S. pendulus sent me from Lancaster by Dr. Muhlenberg himself. In both, even the umbels are erect. It is therefore probable from its slender peduncles, that the flowers which are at first erect, become pendulous with age.

Grows in damp soils, pine barrens, &c. Found in Georgia. Dr. Baldwin.

Flowers June—August. *Leafy Scirpus.*

29. DIVARICATUS. E.

S. culmo obtuse triquetro; umbellis decompositis, divaricatis; spicis ovalibus, pendulis. E.	Stem obtusely 3 angled; umbels decompound, divaricate; spikes oval, pendulous,

Stem erect, 3—4 feet high, glabrous. *Leaves* 6—14 inches long, 3—4 lines wide, flat, glabrous, with the margins finely serrulate; sheath at base short, scarcely one inch long, closed. *Stipule* 0. *Umbel* large, decompound, terminal; branches crowded, divaricate, pendulous. *Glumes* ovate, acute, slightly keeled, glabrous, the midrib green, the sides white. *Style* 3 cleft. *Seed* acutely 3 angled, acute at each end.

Grows in the pine barren between Bee's Creek and Purysburgh.

Flowers May—June. *Divaricate Scirpus.*

30. POLYPHYLLUS.

S. spicis capitulisque subglobosis, glomeratis; corymbo terminali; culmo folioso. Vahl. Enum. pl. 2. p. 274.	Spikes and heads nearly globose, clustered; corymb terminal; stem leafy.

Pursh, 1. p. 57.

Grows in shady woods. Virginia and Carolina.

Flowers July.

31. **Schœnoides.** E.

S. culmo triquetro; paniculis decompositis, axillaribus terminalibusque, pendulis; spiculis fasciculatis; semine obovato, rugoso, setulis obvallato. E.	Stem 3 angled; panicles decompound, axillary and terminal, pendulous; spikelets clustered; seed obovate, rugose, guarded by bristles.

Stem 2—3 feet high, 3 angled, glabrous. *Leaves* linear, short. *Panicles* almost naked, the bracteal leaves being very short. *Spikelets* ovate-lanceolate, very numerous, nearly sessile, clustered. *Glumes* ovate, mucronate, ferruginous. *Stamens* 3. *Style* very long, 3 cleft. *Seed* obovate, compressed, transversely rugose, ferruginous, crowned with a conic, white tubercle, and surrounded with bristles longer than itself.

This species is somewhat remarkable. The structure of the flower is strictly that of a Scirpus; the spikes contain many glumes, each covering a seed with its usual appendages; yet the seed, the tubercle, the surrounding bristles all resemble those of a Schœnus; and the plant itself in habit and appearance would occupy an intermediate space between the Scir. expansus and caducus.

Found near Savannah by Dr. Baldwin.

Flowers *Spiked Scirpus.*

DICHROMENA. Mich.

Glumæ undique imbricatæ, interiores tantum fertiles. *Corolla* 0. *Semen* 1, nudum.	*Glumes* imbricate on all sides, the interior only fertile. *Corolla* 0. *Seed* 1, naked.

1. **Leucocephala.** Mich.

D. involucro subtriphyllo inferne capituloque candidis. Mich. 1. p. 37.	Involucrum somewhat 3 leaved, white at base; head white.

Pursh, 1 p. 47.
Scirpus cephalotes, Walt. p. 71.

Root creeping, perennial. *Stem* erect, about a foot high, naked, 3 angled. *Leaves* linear, concave, not channelled, glabrous, shorter than the stem, sheathing its base. *Flowers* in a terminal head composed of many sessile, compressed, small heads; of the small heads 6—10 of the inner flowers are fertile. *Involucrum* 6 leaved, 3 exterior long, all similar to the leaves, white near the base. *Glumes* small, lanceolate, slighly mucronate, membranous, a little compressed, white. *Filaments* 3. *Style* deeply 2 cleft. *Seed* obovate, compressed, rugose, crowned with a triangular tubercle.

Grows in damp soils.

Flowers July—October. *White-headed Dichromena.*

2. CILIATA.

D. involucro foliisque basi ciliatis; spiculis oblongis, attenuatis. Persoon, 1. p. 58.	Involucrum and leaves ciliate at base; spikelets oblong tapering.

Pursh, 1. p. 47.

Grows in inundated places in Georgia and Florida. Pursh.

Flowers July.

3. LATIFOLIA. Baldwin.

D. involucro polyphyllo, majusculo, foliis albidis; capitulis compressis; foliis prælongis, culmum laxe vaginantibus.	Involucrum many leaved, large, with the leaves white; heads compressed; leaves very long, loosely sheathing the stem.

Root horizontal, creeping, perennial. *Stem* commonly 9—18 inches high, terete, glabrous, leafy near the base. *Leaves* 1—2 feet long, glabrous, acute, concave, slightly marked by the midrib; sheaths long, closed, those, however, of the exterior radical leaves split by age to the base, and become open and flat. *Involucrum* with about ten leaves, longer than the capitulum; the exterior leaves as usual the largest; leaves ovate-lanceolate, with a long tapering point, and excepting the point, white. *Capitulum* composed of many, small, compressed heads. *Glumes* ovate, compressed, rather acute, but not mucronate, very white. *Stamens* 3. The mature seed I have not seen.

For specimens, and observations on this species I am indebted to Dr. Baldwin, who found it in M'Intosh county, Georgia, and in Florida.

Grows around the margins of ponds and in low pine barrens.

Flowers May—June.

This genus is nearls allied to Scirpus ; its seed without bristles, its outer glumes sterile, are accidents that occur in many species of Scirpus. In habit principally it appears to differ, forming always one terminal, sessile head, by the aggregation of many smaller heads.

TRICHOPHORUM. Persoon.

Spiculæ subovatæ, squamis undique imbricatis. *Seminis* setulæ capilliformes, demum exsertæ, numero definito sex.	*Spikelets* ovate, imbricate on all sides, with scales. Bristles of the *seed* hairy, longer than the glumes, 6 in number.

1. Cyperinum.

T. culmo obtuse triquetro, folioso ; panicula supradecomposita, prolifera ; spiculis subternis.	Stem obtusely 3 angled, leafy ; panicle supradecompound, proliferous ; spikelets generally by threes.

Persoon, 1. p. 69.
Pursh, 1. p. 57.
Eriophorum cyperinum, Sp. pl. 1. p. 313..
Walt. p. 71.
Big. p. 16.
Scirpus eriophorum, Mich. 1. p. 33.

Root perennial. *Stem* 2—5 feet high, glabrous. *Leaves* 2—3 feet long, 3—4 lines wide, slightly channelled, with the margin and midrib scabrous; sheaths glabrous, closed, half the length of the joints; stipule only a membranous margin. *Glumes* lanceolate, acute, entire, glabrous. *Stamens* 3. *Style* 2 or 3 cleft. *Seed* 3 angled, compressed, surrounded by 6 bristles a little longer than the glumes.

Grows in damp and boggy soils.
Flowers July—November.

This plant appears to be sufficiently distinct from Eriophorum. It has great affinity to some of the leafy stemmed species of Scirpus, and may with them yet constitute a distinct genus. No character has however been found which will comprehend them all; and Michaux was perhaps correct when he placed this plant among the Scirpi.

ERIOPHORUM. GEN. PL. 95.

Glumæ paleaceæ, undique imbricatæ. *Corolla* 0. *Semen* 1, lana longissima cinctum.	*Glumes* chaffy, imbricate on all sides. *Corolla* 0. *Seed* 1, surrounded with very long wool.

1. VIRGINICUM.

E. culmo tereti, folioso; foliis planis; spicis congestis, subsessilibus, involucro brevioribus. Vahl. Enum. pl. 2. p. 390.	Stem terete, leafy; leaves flat; spikes clustered, nearly sessile, shorter than the involucrum.

Sp. pl. 1. p. 313. Mich. 1. p. 34. Walt. p. 71.

Root perennial. *Stem* 3—4 feet high, glabrous. *Leaves* few, linear, slightly channelled, with the keel and margin scabrous; the sheath at base closed. *Flowers* in an erect globose head *Involucrum* with about three unequal leaves, longer than the head. Scales of the *calyx* ovate, acute. (*Stamens* 2. Mich.) *Seed* compressed, oblong, obovate, pointed with the persistent style, and surrounded by hairs 6—10 lines long.

Grows in bogs, &c. Rare along the sea coast. Sent from St. Stephens by Dr. Macbride.
Flowers August—September. *Virginian Eriophorum.*

CENCHRUS. GEN. PL. 1574.

Involucrum laciniatum, echinatum, 3----4 florum. *Calyx* 2-valvis, 3-florus. *Corolla* 2-valvis, mutica. *Stylus* bifidus.	*Involucrum* laciniate, echinate, 3----4 flowered. *Calyx* 2 valved, 3 flowered. *Corolla* 2 valved, unawned. *Style* 2 cleft.

1. ECHINATUS.

C. spica oblonga, conglomerata; involucro subgloboso, 10-partito. Persoon, 1. p. 71.	Spike oblong, clustered; involucrum nearly globose, 10 parted.

Sp. pl. 1. p. 317.
Grows in Georgia. Muhl. Cat.

The many opportunities Dr. Muhlenberg enjoyed of examining collections of plants from every part of the United States, his great sagacity and profound knowledge, render his authority so great, that I shall never hesitate to register among our own plants any species which has the sanction of his name. There appears, however, to be some confusion between this and the next species, which I have not the means of removing. Willdenow, under the C. tribuloides, quotes the Flora Virginica, but under the C. echinatus, he has placed every synonyme which Gronovius has applied to the former species.

2. TRIBULOIDES.

C. spica glomerata; involucris globosis, villosis, muricato-spinosis. Sp. pl. 1. p. 317.	Spike clustered; involucrum globose, villous, armed with spines.

Mich. 1. p. 61.—Pursh 1. p. 60.
Clayt. p. 160. No. 206.

Root annual. *Stem* erect, 1 foot high, compressed, glabrous, sometimes branching. *Leaves* about 6 inches long, acute, channelled, with the margins finely serrulate, scabrous on the upper surface, glabrous on the lower; sheath open, generally twice as long as the joints, hairy along the margins and at the contracted throat. *Rachis* angled, hairy, particularly at the angles. *Involucrum* one valved? split on the interior side, containing generally 1 calyx? sometimes 2. *Calyx* 2 valved, 2 flowered, (1 fertile, the other sterile,) unequal, shorter, than the corolla; exterior valve shorter, gibbous at base, acute, glabrous, 7 nerved, concave, not keeled; the interior concave, acute, 5 nerved. *Corolla of the hermaphrodite flower* 2 valved; the exterior valve acute, 9 nerved, infolding the interior; interior valve smaller, infolding the stamens and germ, concave, 2 nerved, impressed on the back: *corolla of the sterile flower* 1 valved, concave, acute, 2 nerved, infolding the stamens. *Filaments* 3, transparent. *Styles* 2? slightly cohering. *Stigmas* glandular, feathered. *Seed* oval, covered by the persistent glumes and involucrum.

Grows in sandy pastures. Most abundant along the sea coast.
Flowers July—October. *Cockspur bur.*

SPARTINA. Schreber.

Flores in spicis unilaterifloris. *Calyx* 2-valvis, inæqualis, carinatus 1-florus. *Corolla* 2-valvis, inæqualis.	Flowers in spikes, arranged on one side. *Calyx* 2 valved, unequal, keeled, 1 flowered. *Corolla* 2 valved, unequal.

1. JUNCEA.

S. foliis linearibus, plerumque convolutis; spicis paucis, alternis, patentibus; floribus digynis. E.	Leaves linear, commonly convolute; spikes few, alternate, expanding; flowers with 2 styles.

Dactylis cynosuroides, Walt. p. 77.
Trachynotia juncea, Mich. 1. p. 64.
Limnetis juncea, Pursh. 1. p. 59.

Root perennial, forming very thick tufts. *Stem* about 2 feet high, columnar, glabrous. *Leaves* 12—18 inches long, very acute, on the under surface glabrous, on the upper a little glaucous, and roughened along the elevated nerves; when dry convolute; sheaths longer than the joints, glabrous, ciliate at the throat. *Spikes* 3—4. *Flowers* in two rows, crowded; the flowers in fact occupy 2 sides of a depressed triangular rachis, of which the broad base is naked; the summit of the rachis acute, naked. *Calyx*, exterior valve very small, acute, compressed, slightly mucronate, the keel serrulate; interior valve 3 times as long, compressed, keeled, mucronate; the keel most acutely serrulate. *Corolla*, exterior valve shortest, membranous, compressed, keeled, emarginate, the keel serrulate; interior valve as long as the interior valve of the calyx, compressed, but not keeled, membranous, acute. *Filaments* 3, longer than the glumes. *Anthers* long, incumbent, 2 cleft at base, a little spiral. *Styles* 2. *Stigmas* feathered. *Seed* oblong, compressed.

Grows in ground occasionally inundated by salt water.

Flowers March—August. *Rush-like Spartina.*
White Rush.

2. POLYSTACHYA.

S. foliis lato planis, longissimis; spicis plurimis, alternis, patentibus; floribus monogynis.	Leaves broad, flat, very long; spikes numerous, alternate, expanding; flowers with 1 style.

Traychynotia polystachya. Mich. 1. p. 64.
Limnetis polystachya ? Pursh, 1. p. 59.

Stem 3—10 feet high, columnar, glabrous. *Leaves* 1—3 feet long, 3—10 lines wide, serrulate, slightly channelled, scabrous on the upper surface, glabrous on the under; sheath much longer than the joints, glabrous, the throat hairy; stipules bearded. *Spikes* 10—12. From the preceding it differs in its flowers, only in the following parculars—exterior valve of the calyx half as long as the interior; exterior valve of the corolla obtuse, mucronate, interior scabrous on the back. *Style* 2 cleft at the summit. *Stigmas* feathered, white.

Grows in brackish marshes, sometimes along the margin of salt water. Near the mouth of Savannah river, common. Paris Island.

Flowers September. *Many-spiked Spartina.*

3. GLABRA. Muhl. Cat.

S. foliis stricte erectis, concavis; spicis alternis, erectis, appressis; floribus digynis.	Leaves erect, concave; spikes alternate, erect, appressed; flowers with 2 styles.

Big. p. 17.
Dactylis maritima, Walt. p. 77.

Stem 2—4 feet high, columnar, very glabrous, a little succulent, hollow. *Leaves* 1—3 feet long, 6—8 lines wide, acute, very entire, concave, not channelled, glabrous; sheaths as long as the joints, open, slightly ciliate; stipule membranous, short, lacerate. *Spikes* 5—8, appressed so as apparently to form one compact spike. *Flowers* as in the preceding species. Keels of the *calyx* and *corolla* ciliate rather than sharply serrulate. *Corolla* shorter than the calyx. *Styles* 2. *Stigmas* white, feathered.

Grows in places overflowed with salt water at every tide, forming exclusively the "salt water marsh."

Flowers August—September. *Salt Marsh Grass.*

No. 577, p. 13. of Clayton, appears to belong to this species; his preceding observations in *italics* certainly do. Notwithstanding this is the most common species of Spartina, and from its situation not likely to be overlooked, yet Michaux appears to have confounded it with his T. polystachya, a very distinct species: and except by Walter, it seems to have been united by our older botanists with very different plants.

This plant is greedily eaten by horses and cattle. It is remarkable for a strong, rancid and peculiar smell, affecting the breath, the milk, butter, and even the flesh of the cattle that feed upon it. It affords however good pasturage for out-door stock, and is becoming valuable and valued as a manure.

ARUNDINARIA.

Calyx 2-valvis, multiflorus. *Corolla* 2-valvis. *Stylus* brevissimus, trifidus.	*Calyx* 2 valved, many flowered. *Corolla* 2 valved. *Styles* very short, 3 cleft.

1. **MACROSPERMA.** Mich.

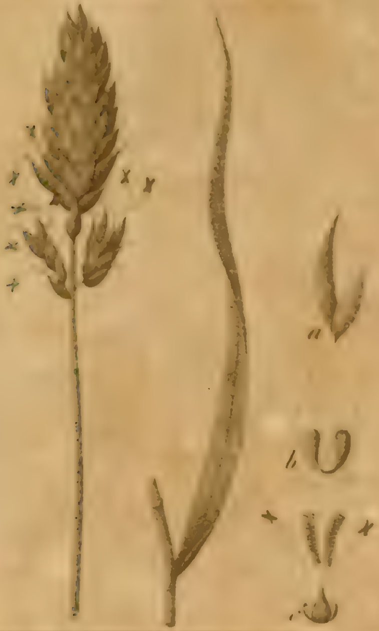
Mich. 1. p. 74.
Arundo gigantea and tecta, Walt. p. 81.

Root perennial, cespitose. *Stem* 3—15 feet high, terete, glabrous, hollow, rigid, branching towards the summit; the branches distichous. *Leaves* distichous, lanceolate, large, flat, slightly acuminate, pubescent on the under surface; sheaths much longer than the joints, mar-

Pl. 1.

No 1

Anthoxanthum Odoratum



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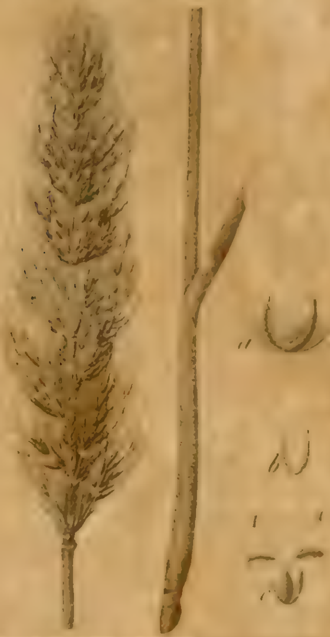
Erianthus Brevibarbis



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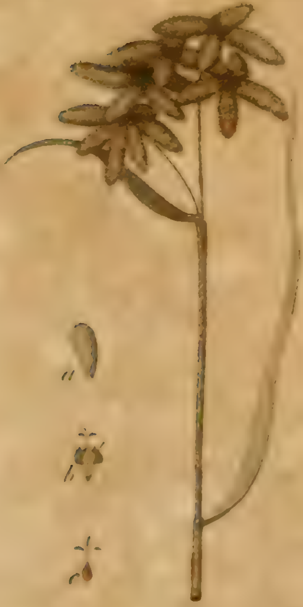

Fuirena Squarrosa

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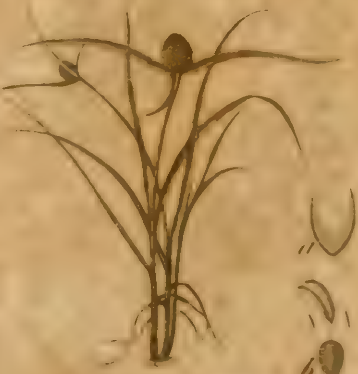
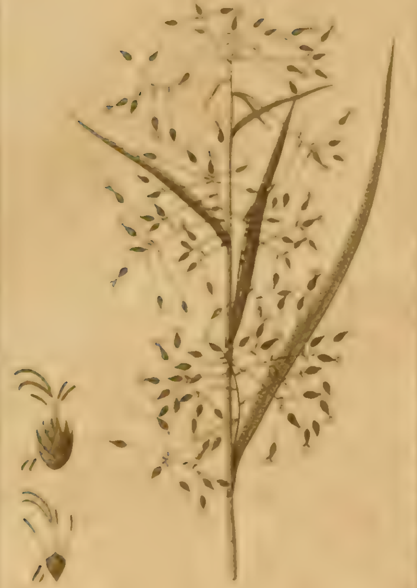


Kyllinga Pumila

Pl. II

N° 1

Schoenus Sparsus



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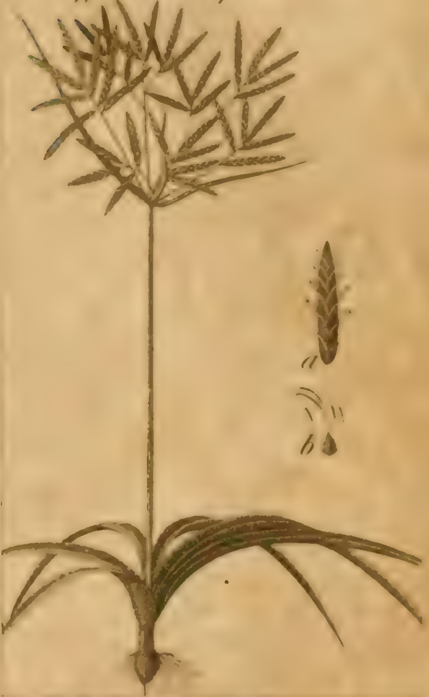
Cyperus Hydra



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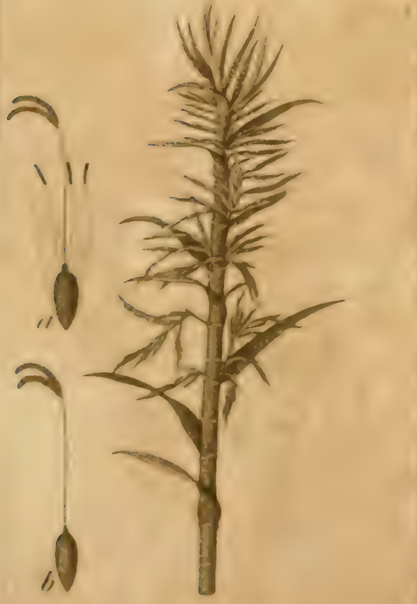

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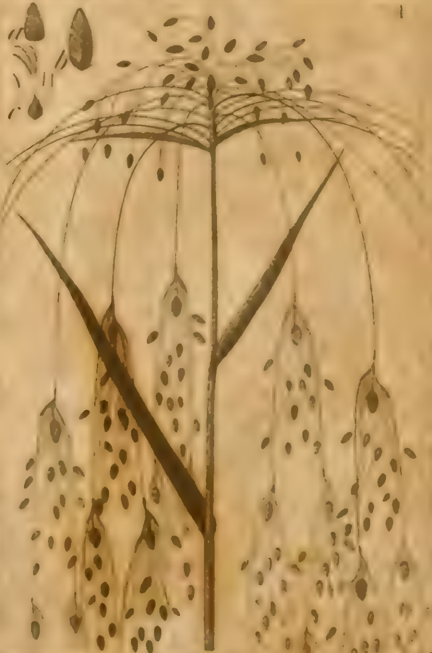

ADVERTISEMENT.

THE first and nearly half of the second Number of this Sketch had been printed, before I could obtain a copy of Pursh's *Flora Americæ Septentrionalis.* This work, published in London under the most favorable auspices, has enabled me to add to my own researches, and those of the friends who have aided me, all that has been collected in this country by the travellers and botanists of Europe. Willing to avail myself of the advantages it afforded me, and to present to my readers as comprehensive a view of our Botany as possible; desirous also, not to add to the confusion of synonymes, which is becoming a serious evil in American botany, and to correct a few inaccuracies which had been pointed out to me, I immediately reprinted the first number of my work. In the second number the alterations were too unimportant to render this measure necessary. I have therefore annexed on a loose sheet a few species, which are to be added to those I have already described. These shall again be inserted in the supplement to this work, when this sheet may be destroyed. They are now prefixed, that persons studying our botany may have at one view all that has yet been published on the subject.

PANICUM.

VERTICILLATUM.

P. spica verticillata, racemulis quaternis; involucellis unifloris, bisetis; culmis diffusis. Sp. pl. 1. p. 334.	Spikes verticillate, the branches by fours; small involucrum 1 flowered, 2 awned; stem diffuse.

Pursh, 1. p. 66.

Pursh remarks that he has seen this species in the herbarium of Walter.

Grows in sandy woods, from New-Jersey to Carolina.
Flowers June—July.

WALTERI. Pursh.

P. spicis alternis, erectis, solitariis, simplicibus;	Spikes alternate, erect, solitary, simple; glumes

glumis ovatis, muricato-hispidis, aristatis; arista altera longissima; rachi trigona; vaginis hispidissimis; foliis glabris. Pursh, 1. p. 66.

ovate, muricate, hispid, awned; one awn very long; rachis 3 angled; sheaths very hispid; leaves glabrous.

Probably the P. Crus Galli *var hispidum*, of this work; yet Pursh refers to it P. hirtellum of Walter, and the P. muricatum of Michaux—two very distinct plants.

Grows near the salt water, from Canada to New-York. Pursh.
Flowers July—September.

FUSCO-RUBENS. La Marck.

P. racemis linearibus, virgatis; glumis clavatis, coloratis; pilis sub paniculæ divisuris. Lam. Encycl. 4. p. 737.

Racemes linear, virgate; glumes clavate, coloured; hairy under the divisions of the panicle.

Grows in rice fields, in Georgia.
Flowers August.

STRIATUM. La Marck.

P. panicula oblonga; glumis majusculis, glabris, viridibus, pulchre striatis. Lam. Encycl. 4. p. 748.

Panicle oblong; glumes large, glabrous, green, handsomely striate.

Collected in Carolina, by Mr. Fraser.

DIFFUSUM.

P. panicula simpliciuscula, capillari, patente; flosculis remotiusculis, acutis; culmo simplici; foliis longis, linearibus, collo vaginisque villosis. Swartz, Prod. 23.

Panicle simple, capillary, expanding; florets remote, acute; stem simple; leaves long, linear, with the throat and sheaths villous.

Grows in dry sandy woods, from Virginia to Carolina. Pursh.
Flowers July.

NODIFLORUM. La Marck.

P. paniculis minimis, lateralibus terminalibusque; glumis ovatis, pubescentibus; foliis angustis, breviusculis, collo barbatis.	Panicle very small, lateral and terminal; glumes ovate. pubescent; leaves narrow, short, bearded at the throat.

P. ramulosum, Mich. 1. p. 30.

Grows in dry fields, from Pennsylvania to Carolina.
Flowers July.

AGROSTIS.

PAUCIFLORA. Pursh.

A. paniculæ ramis unifloris, filiformibus; corollis aristatis, calyce inæquali duplo longioribus, hirsutis; vaginis villosis.	Panicle with branches filiform, one flowered; corolla awned, twice as long as the unequal calyx, hirsute; sheaths villous.

Pursh, 1. p. 63.

Stem 18 inches high, glabrous. *Leaves* very long, linear, villous, nervose; sheaths striate, villous; stipules short. *Panicle* very simple, with the branches long, one flowered. Valves of the *calyx* unequal, villous, with short awns. *Corolla* oblong, villous, twice as long as the interior valve of the calyx, bearing short awns. Pursh.

Grows on high mountains, in Virginia and Carolina.
Flowers July.

CINNA.

A. panicula magna, debili; foliis lato linearibus, glabris; valvula altera infra apicem subaristata; caule glabro. Pursh, 1. p. 64.	Panicle large, weak; leaves broad, linear, glabrous; one valve slightly awned beneath the summit; stem glabrous.

Cinna arundinacea, Sp. pl. 1 p. 31.

When the genus Agrostis was sent to the press I had no authority for inserting this species among our plants. I have since been informed by Dr. Baldwin, that he has found it near Savannah; and I have received specimens of it from Dr. Boykin, of Milledgeville, Georgia.

Grows from Canada to Georgia.

Flowers August. P.

Lateriflora. Mich.

A. paniculis lateralibus terminalibusque, coarctatis; floribus muticis; valvulis acutissimis, interioribus majoribus, basi barbatis; foliis planis, brevibus. Pursh, 1. p. 64.

Panicles lateral and terminal, with the flowers appressed; flowers unawned; valves very acute, the interior longer and bearded at base; leaves flat, short.

Mich. 1. p. 53.

Grows along the edges of woods, in rich soils, from New-York to Florida. Pursh.

Flowers June—July.

cescent; the throat contracted. Stipules bristly. *Panicle* simple, terminal, composed of distichous spikes, 7—10 flowered. *Peduncles* about an inch long, pubescent. *Calyx* smaller than the corolla, valves unequal; exterior valve very small, slightly ciliate. *Valves* of the *corolla* unequal; the exterior largest, acuminate, slightly mucronate and ciliate, scarcely keeled; the interior acute, frequently two cleft. *Nectaries* 3, flat, lanceolate, longer than the germ. *Filaments* 3, shorter than the corolla. *Anthers* nearly white. *Style* short, unequally 3 parted. *Stigmas* feathered, white. *Seed* cylindrical, obtuse, large, slightly furrowed.

I have never seen the large variety of cane (Arundo gigantea, Walt.) in flower, and have not therefore been able to determine whether it is specifically distinct. The above descriptjon is taken from the small variety (Arundo tecta, Walt.) The large cane grows to the height of 30—35 feet.

This plant is said to flower but once in twenty or twenty-five years. The A. tecta however flowered in 1804, again in 1811, and once or twice iu the succeeding 4 years.

Grows in rich soils, preferring these which are occasionally inundated.

Flowers March—April.

MUHLENBERGIA. Gen: Pl: 103.

Calyx 1-valvis, minutus, lateralis. *Corolla* 2-valvis.

Calyx 1 valved, minute, lateral. *Corolla* 2-valved.

1. Diffusa.

M. culmo decumbente; foliis linearibus; panicula gracili, appressa; floribus minutis, arista longitudine glumæ. E.

Stem decumbent; leaves linear; panicle slender, appressed; flowers small, the awn as long as the glumes.

Root fibrous. *Stem* about one foot long, procumbent, geniculate, branched, a little compressed, glabrous. *Leaves* 3—4 inches long, 2 lines wide, scabrous; sheath open, as long as the joints; throat contracted and hairy. *Panicle* composed of alternate, appressed racemes, very slender; peduncles very short. *Calyx* 2 valved, unequal, acuminate, resembling scales, seeming rather as an involucrum to protect the base of the corolla than to form a part of the flower; not falling with the seed. *Corolla*, valves unequal, hairy at base; the exterior lanceolate, 3 nerved, nerves serrulate, tapering to a long scabrous awn; interior valve similar but awnless. *Filaments* three. *Anthers* yellow. *Styles* two, short. *Stigmas* feathered, purple.

Grows in damp soils. Prince Williams.

Flowers August—October. *Spreading Muhlenbergia.*

2. Erecta. Muhl. Cat.

M. culmo erecto; foliis lanceolatis; racemo terminali; floribus majusculis, arista valvis duplo longiore. E.

Stem erect; leaves lanceolate; racemes terminal; flowers large, the awn twice as long as the glumes.

Dilepyrum aristosum? Mich. 1. p. 40.

Stem erect, slightly scabrous. *Leaves* 3—4 inches long, 6—7 lines wide, very acute, scabrous, (pubescent, Mich.); sheath open, shorter than the joints, hairy at the throat; stipule membranous. *Flowers* (in my specimens) in a simple raceme. *Calyx* 2 valved, 1 very minute, the interior tapering, very acute, 2—3 lines long. *Corolla*, exterior valve lanceolate, many nerved, concave, scabrous, terminating in a long awn; interior awnless.

Grows in shady woods in Carolina and Georgia. Mich.

My specimens are from Pennsyl. *Erect Muhlenbergia.*

TRICHODIUM. Mich.

Calyx 2-valvis, æqualis. *Corolla* 1-valvis. *Flores* in paniculis capillaribus.

Calyx 2 valved, equal. *Corolla* 1 valved. *Flowers* in capillary panicles.

1. **Laxiflorum.** Mich.

T. culmo erecto; foliis vaginisque scabris; panicula diffusa, trichotome ramosa; floribus fasciculatis terminalibus. E.

Stem erect: leaves and sheath scabrous: panicle diffused, with the branches trichotomous; flowers fasciculate, terminal.

Mich. 1. p. 42.
Cornucopia hyemalis. Walt. p. 73.

Root perennial. *Stem* 1—3 feet high, columnar, glabrous near the base, sometimes geniculate. *Leaves* 1—3 inches long, 1 line wide; sheaths shorter than the joints; stipules short, membranous, lacerate. *Flowers* 3—10, clustered near the summit of each branch; branches 1—10 inches long, serrulate along the angles, destitute of hair even in the axils. *Calyx*, valves lanceolate, compressed, very acute, serrulate along the keel, somewhat ciliate along the margins; the exterior a little shorter. *Corolla*, valve shorter than the calyx, concave somewhat acute; the margins pubescent. *Anthers* yellowish. *Stigmas* white.

Grows in close soils. In dry ground it scarcely exceeds a foot in height, in swamps it grows 2—3 feet, with the panicle sometimes 2 feet long.

Flowers March—May. *Spring Trichodium.*

2. **Perennans.** Walt.

T. culmo decumbente; panicula subdiffusa, ramis verticillatis, trichotomisque; floribus racemosis. E.

Stem decumbent: panicle somewhat diffuse; branches verticillate and trichotomous; flowers racemose.

Cornucopia perennans. Walt. p. 74.
Trichodium decumbens. Mich. 1. p. 73.
Agrostis anomala. Sp: pl: 1. p. 70.

Root creeping, perennial. *Stem* decumbent, generally about 1 foot high, sometimes 2, slender, columnar, glabrous. *Leaves* 2—6 inches long, 1—3 lines wide, slightly scabrous; sheaths longer than the joints, glabrous; stipules membranous. *Panicle* slender, diffuse, but less so than in the preceding species, and the flowers less clustered at the summits. *Calyx* 2 valved, nearly equal, very acute, acuminate, compressed, the keel serrulate. *Corolla* 1 valved, shorter than the calyx, rather acute. *Anthers* white. *Styles* short. *Stigmas* white.

This is a fine delicate winter grass, but never appears to grow vigorously enough for the scythe, nor will it bear, except in shaded or damp soils, the heat of summer.

Grows in damp shaded places.
Flowers September—December. *Perennial Trichodium.*

LEERSIA. Gen. pl. 105.

Calyx 0. *Corolla* 2-valvis, clausa.	*Calyx* 0. *Corolla* 2 valved, closed.
1. VIRGINICA.	
L. panicula laxa, parvula, ramulis sparsis; floribus appressis, monandris, scabris; glumis carina parce ciliatis. E.	Panicle loose, with scattered branches, small; flowers appressed; monandrous, scabrous; the keel of the glumes sparingly ciliate.

Sp: pl: p. 325.

Root fibrous, perennial. *Stem* erect and decumbent, compressed, sparingly branched, 2—3 feet high, hairy at the joints. *Leaves* linear-lanceolate, acute, scabrous; sheath compressed, withthe angles acute, very scabrous, shorter than the joints; stipule membranous, not hairy. *Panicle* terminal, composed of a few racemes with the flowers on one side; flowers caducous. *Corolla*, valves equal; the exterior compressed, boat shaped, mucronate, 5 nerved, nerves and keel ciliate, and the glume also scabrous; the interior linear-lanceolate, with the keel straight, slightly ciliate; the flowers so closely appressed as generally to bend round the common peduncle. *Filament* 1? longer than the corolla. *Styles* two. *Stigma* feathered, white. *Seed* oblong.

Grows in damp soils.
Flowers August—September. *Virginian Leersia.*

2. LENTICULARIS? Mich.	
L. panicula erecta; floribus majusculis, suborbiculatis, diandris, imbricatis, carina, nervisque ciliatis. E.	Panicle erect; flowers large, nearly orbicular, diandrous, imbricate, with the keel and nerves ciliate.

Root perennial. *Stem* erect, 2—4 feet high, terete, smooth excepting at the joints. *Leaves* somewhat lanceolate, scabrous along the margins, and on the under surface, nearly smooth above; sheaths a little shorter than the joints, hispid, with the hairs retrorse. Branches of the *panicle* nearly erect. The *flowers* much larger than in the other species, closely imbricate, sprinkled with short stiff hairs, and fringed along every nerve; the valves so broad as to form a flower nearly orbicular. *Stamens* 2, (in every flower that I have examined) shorter than the calyx. *Styles* shorter than the calyx. *Stigmas* white, feathered. *Nectaries* 2, oval ? larger than the germ.

Grows in Camden county, near the Satilla river. Dr. Baldwin.
Flowers *Round-flowered Leersia.*

3. ORYZOIDES?

L. panicula effusa, majuscula; floribus triandris, scabris, patulis; glumis carina conspicue ciliatis. E.	Panicle effused, large; flowers triandrous, scabrous, expanding; glumes with the keel conspicuously ciliate.

Sp: pl: 1. p. 325.
Mich. 1. p. 39.

A plant in all respects larger than the L. Virginica. *Stem* 3—4 feet high. In this the *panicle* is large and every way diffused, with the branches sometimes pendulous. *Flowers* nearly sessile on the common peduncle, imbricate, appressed to each other not against the stem; the keel of each valve conspicuously ciliate. The Virginica appeared to me always monandrous, this manifestly triandrous. *Styles* in both species shorter than the corolla, projecting at the sides. *Leaves* very scabrous.

Grows in the river swamps at Ogechee. Near Charleston.
Flowers October—November. *Spreading-flowered Leersia.*

PHALARIS. GEN. PL. 106.

Calyx 2-valvis, carinatus, longitudine æqualis, corollam includens.	*Calyx* 2 valved, keeled, equal in length, enclosing the corolla.

1. AMERICANA. E.

P. panicula oblonga, spiciformi; glumis calyx-	Panicle oblong, resembling a spike; glumes of

cinis navicularibus, serrulatis: corolla quadrivalvi, valvulis exterioribus linearibus, interioribus inæqualibus, omnibus pilosis. E.	the calyx boat-shaped, serrulate; corolla 4 valved, exterior valves linear, interior unequal, all hairy.

P. arundinacea. Mich. 1. p. 43. Muhl. Cat. p. 8.

Root annual? *Stem* erect, a little geniculate at base, columnar, branching, slightly scabrous near the summit. *Leaves* linear-lanceolate, slightly keeled, glabrous; sheath open, much shorter than the joints; stipule membranous. *Calyx*, valves compressed, very acute, the keel serrulate and a little winged near the summit; the exterior valve a little shorter than the interior. *Corolla*, the 2 accessory valves minute, glandular at base; of the 2 interior valves, the exterior is ovate, acuminate, slightly compressed, half as long as the calyx, but twice as long as the interior. *Nectaries* 2 scales? ovate-lanceolate, acute, longer than the germ. *Filaments* 3. *Anthers* dark purple. *Style* 1? cleft almost to the base. *Stigmas* feathered, white. *Seed* oblong.

This plant appears to be worth cultivating as a spring grass.

Grows in river swamps, in situations not frequently inundated. Ogechee. Pon Pon. I have seen it on James Island in a dry soil.

Flowers April. *American Phalaris.*

AULAXANTHUS. E.

Flores paniculati. *Calyx* 2 valvis, 1-florus; valvis æqualibus, sulcatis. *Corolla* 2-valvis, subæqualis.	*Flowers* in panicles. *Calyx* 2 valved, 1 flowered; valves equal, furrowed. *Corolla* 2 valved, valves nearly equal.
1. Ciliatus. E.	
A. culmo erecto; foliis linearibus, ciliatis; panicula gracili, stricta. E.	Stem erect; leaves linear, ciliate; panicle slender, appressed.

Phalaris villosa? Mich. 1. p. 43.

Root fibrous, perennial? *Stem* 2 feet high, glabrous, near the root somewhat compressed, above columnar, naked. *Leaves* linear, not channelled, glabrous, ciliate; sheath contracted and ciliate, with very short hair at the throat; lower leaves 6—8 inches long, the upper diminishing to a scale, but with long sheaths. *Calyx*, glumes equal, lanceolate, concave, marked with 5 elevated nerves, and 5 longitudinal, villous furrows: hair whitish. *Corolla* 2 valved, a little unequal, exterior concave, acute, as long as the calyx: the interior flat, just embraced by the margin of the exterior valve, both brown, when mature black: at the back of the interior valve occurs a neutral floret 1 valved, ovate, 2 cleft, green. *Filaments* 3. *Anthers* tawny. *Styles* 2, longer than the corolla. *Stigmas* feathered, white. *Seed* obovate, nearly round, glabrous.

Grows in dry pine barrens.

Flowers September—October. *Fringed Aulaxanthus.*

2. RUFUS. E.

A. culmo erecto; foliis glaberrimis: panicula majuscula, subappressa; villis calycis rufis. E.	Stem erect; leaves very glabrous; panicle large, slightly appressed; hair of the calyx rufous.

This species differs from the preceding very much in size: it is every way larger. The leaves are destitute of hair, except at the throat: and the rufous hair on the calyx is so long as to cause the flower to resemble a ball of hair. It may be merely a variety produced by a difference of soil: but as I had not a favourable opportunity of examining it, I insert it here for future observation.

Grows in savannas, and damp soils in the pine barrens, midway between Saltcatcher bridge and Murphy's, on the Edisto.

Flowers August—September. *Rufous-flowered Aulaxanthus.*

This genus is nearly allied to Panicum: but its furrowed calyx and the absence of an accessory valve sufficiently distinguish it. It appears to be separated from Phalaris both by structure and habit. To the Paspalum it bears some affinity in the structure of the flowers, but is very distinct in habit.

MILIUM. GEN. PL. 110.

Calyx 2-valvis, uniflorus; valvulis subæqualibus. *Corolla* brevissima. *Stigmata* penicilliformia.	*Calyx* 2 valved, one flowered; with the valves unequal. *Corolla* very short. *Stigmas* feathered.

1. **Paspalodes.**

U. culmo repente, ascendenteque; foliis apice contractis; spicis conjugatis; floribus alternis; glumis ovato-lanceolatis. E.

Stem creeping and ascending; leaves contracted near the summit; spikes conjugate; flowers alternate; glumes ovate-lanceolate.

M. distichum. Muhl. Cat.
Digitaria paspalodes. Mich. 1. p. 46.

Root perennial. *Stem* creeping and ascending, compressed, glabrous. *Leaves* 3—6 inches long, 4 lines broad, obtuse, ciliate, glabrous, about half an inch from the summit contracted, and feeling as if crossed by a rib or nerve, yellowish green. *Spikes* conjugate. *Flowers* alternate, one from each bud, somewhat distichous. *Calyx*, glumes equal, ovate-lanceolate, acute, glabrous. *Corolla*, glumes equal, ovate, shorter than the calyx, generally about half its length. *Anthers* dark purple. *Stigmas* similar, feathered. *Seed* compressed, ovate.

This plant is an intermediate species between the Milium and Paspalum. From its acute calyx and abbreviated corolla, it has been placed in this genus; yet to the corolla the Linnean phrase "brevissima" can by no means apply.

Grows in close soils, on Charleston neck. Beaufort. Very common. I have never seen it far from salt water.

Flowers June—September. *Twin-spiked Milium.*

PASPALUM. Gen. Pl. 107.

Flores in spicis unilaterifloris. *Calyx* 2-valvis, orbiculatus. *Corolla* 2-valvis, ejusdem magnitudinis.

Flowers in spikes, arranged on one side. *Calyx* 2 valved, orbicular. *Corolla* 2 valved, equal in size.

1. **Setaceum.** Mich.

P. culmo erecto; foliis vaginisque villosis; spicis plerumque solitariis; floribus biseriatis.

Stem erect; leaves and sheaths villous; spikes generally solitary; flowers in 2 rows.

Mich. 1. p. 43.

Root fibrous, perennial. *Stem* columnar, slender, glabrous. *Leaves* narrow, acute, keeled; the upper joint of the stem which supports the spikes very long; spikes sometimes axillary. *Calyx*, glumes equal, one flat, the other convex, both 3 or 5 nerved, pubescent when viewed with a lens. *Corolla* similar, but glabrous. *Filaments* 2. *Anthers* purple. *Styles* 2. *Stigmas* feathered, simple.

Grows in dry soils. Common around Beaufort.

Flowers June—August. *Slender Paspalum.*

2. **DEBILE.** Mich. P. culmo debili; foliis et caule? pilosis; spica plerumque unica, tenui; floribus alternis uniseriatis.	Stem weak; leaves and stem? hairy; spike generally one, slender; flowers alternate one rowed.

Mich. 1. p. 44.
P. dissectum? Walt. p. 75.

Stem setaceous near the summit. *Flowers*, 1 from each *bud* of the rachis, obovate, pubescent when viewed with a lens. Mich.

This is an obscure species to me.

Grows along the sea coast of Carolina and Georgia. Mich.

Weak-stalked Paspalum.

3. **CILIATIFOLIUM.** Mich. P. culmo decumbente; foliis subglabris, pulchre ciliatis: spica plerumque unica; floribus magnis, quasi triseriatis.	Stem decumbent; leaves nearly glabrous, handsomely ciliate; spike generally 1; flowers large, 3 rowed.

Mich. 1. p. 44.

Stem somewhat decumbent, slightly compressed, glabrous. *Leaves* wide, glabrous, sometimes sprinkled with hair, keeled, the margin frequently purple; sheaths glabrous, open, the margins not ciliate. *Spikes* as in the preceding species, flowers larger and crowded, so as to form 3 rows. *Calyx*, glumes pubescent under a lens. *Filaments* 3. *Anthers* purple. *Stigmas* feathered, purple.

Grows in dry cultivated ground. Very common.

Flowers May—September. *Fringed Paspalum.*

4. **DASYPHYLLUM.** E. P. culmo decumbente, glabro; foliis vaginisque hirsutissimis; spicis paucis (2—3), patentibus, floribus triseriatis. E.	Stem decumbent, glabrous; leaves and sheaths very hairy; spikes few (2—3), expanding; flowers in three rows.

Stem 12—18 inches high, glabrous, sometimes branched, decumbent. *Leaves* broad, nearly strap-shaped, generally acute, and with the sheath very hairy; sheaths shorter than the joints. *Spikes* 2—3, alternate, expanding; flowers, 2 at each bud, both nearly sessile. *Calyx* 3 nerved, slightly pubescent, oval, but so wide as to be nearly round. *Stigmas* feathered, dark purple.

This species is very common in cultivated ground. It appears to have been confounded with the preceding, to which it has but little resemblance. In the P. ciliatifolium, the leaves are slightly pubescent, sometimes glabrous, but always beautifully fringed; in this, the margin is only hairy in common with the surface of the leaf. In the former, the naked slender summit of the stem frequently extends 12—18 inches, bearing a solitary terminal spike; and sometimes there are 2 or 3 peduncles (if so they may be called) from a sheath; in this, the summit is not extended, and bears 2 or 3 expanding spikes.

Flowers July—October. *Hairy-leaved Paspalum.*

5. Præcox. Walt.

P. culmo erecto; foliis lanceolato-linearibus, glabris; spicis plurimis, alternis; rachi angusta, basi pilosa; floribus triseriatis.

Stem erect; leaves lanceolate-linear, glabrous; spikes many, alternate; rachis narrow, hairy at base; flowers in 3 rows.

Walt. p. 75.
Mich. 1. p. 44.

Stem erect, glabrous. *Leaves* long, almost linear, glabrous; sheaths glabrous, the throat not hairy; stipule membranous. *Spikes* 3—5; flowers crowded, 2 from each bud, one sessile. *Rachis* linear, straight, surrounded at base with long hair. *Glumes* orbicular, very smooth. *Anthers* saffron colour. *Stigmas* dark purple.

Grows in damp soils, ditches, &c.

Flowers May—August. *Early Paspalum.*

6. Læve. Mich.

P. culmo erecto; foliis brevibus, glaberrimis; spicis alternis; floribus biseriatis, glabris, majusculis.

Stem erect; leaves short, very glabrous; spikes alternate; flowers 2 rowed, glabrous, large.

Mich. 1. p. 44.

Stem erect, 1—2 feet high, glabrous. *Leaves* narrow, lanceolate, rather short, somewhat glaucous, very smooth, contracted and hairy at the throat; stipule membranous. *Spikes* about 5; flowers, one from each bud, large, smooth, orbicular; rachis linear, flexuous, a little hairy at base.

Grows in damp pastures. Paris Island.
Flowers June—September.

I insert this species from Michaux. I have latterly doubted whether the plant I found on Paris Island can be considered more than a glabrous variety of the *P.* floridanum.

7. FLORIDANUM. Mich.

P. culmo erecto; foliis inferioribus villosissimis, superioribus scabris, pilosis, longe vaginantibus; spicis paucis; floribus biseriatis, glabris, majusculis. E.

Stem erect; lower leaves very villous, upper scabrous, hairy; sheaths very long; spikes few; flowers in 2 rows, glabrous, large.

Mich. 1. p. 44.

Stem erect, columnar, smooth, 3—4 feet high. *Leaves* long, the lower very hairy, and scabrous, the upper ones becoming nearly smooth; sheaths similar; the throat villous; stipule membranous. *Spikes* almost uniformly 3. *Rachis* linear, flexuous, hairy at base. Flowers, 1 sometimes 2 from each bud, large, smooth. *Stigmas* purple.

Grows in dry soils. Sometimes occurs in damp ground. Common.
Flowers June—September. *Florida Paspalum.*

8. PLICATULUM. Mich.

P. culmo erecto; foliis angustis, longis; spicis pluribus; floribus triseriatis; valvula plana juxta margines tranverse plicata.

Stem erect; leaves narrow, long; spikes many; flowers in 3 rows; the flat valve transversely plaited near the margins.

Mich. 1. p. 45.

Plant very glabrous. *Spikes* alternate, erect. *Glumes* short, ovate, somewhat rufous, glabrous. Mich.

I have not seen this species.
Grows in Georgia and Florida. Mich.

9. Purpurascens. E.

P. culmo suberecto; foliis prælongis, purpurascentibus, ad faucem pilosis; spicis plurimis, basi pilosis; floribus quadriseriatis. E.

Stem somewhat erect; leaves long, purplish, hairy at the throat; spikes numerous, villous at base; flowers in 4 rows.

R. virgatum, Walt. p. 75.

Stem decumbent and ascending, terete, glabrous, branching, 2 feet high. *Leaves* very long, 12—18 inches, 5—6 lines wide, scabrous along the margins, hairy near the base, remarkable for their dark purple hue, which extends also to the lower part of the stem. *Spikes* 6—12. *Flowers* 2 from each bud, crowded. *Rachis* rather wide, straight, hairy at base. *Anthers* saffron colour. *Stigmas* dark purple. *Seed* nearly black.

This plant resembles much Sloan's figure, Hist. Jam. 1. p. 112 t. 69. f. 1. But as the exterior valve of the calyx is neither short nor hairy, it must be considered a distinct species from the P. virgatum. Lin.

Grows in most soils. Common.
Flowers July—October. *Purple Paspalum.*

10. Distichum.

P. culmo repente; foliis brevibus, glaucescentibus, nitidis; spicis duabus, altera sessili; glumis lanceolatis. E.

Stem creeping; leaves short, somewhat glaucous, shining; spikes 2, one sitting; glumes lanceolate.

Sp. pl. p. 332.
Walt. p. 75.

Root perennial. *Stem* prostrate, geniculate, branching, throwing out roots at the joints, slightly compressed, glabrous; the flower-bearing stems assurgent, about 1 foot high. *Leaves* 2 inches long, acute, somewhat glaucous, shining, sprinkled with a few hairs; sheath open, the margins and throat hairy. *Spikes* 2, sometimes 4. *Flowers* alternate, 2 rowed. *Glumes* exactly lanceolate. *Anthers* dark purple. *Stigmas* feathered, dark purple.

The leaves in our plant are never involute.

Grows in wet and damp soils. To rice planters too well known under the name of joint-grass.

Flowers through the whole summer. *Creeping Paspalum.*
Joint-grass.

11. Vaginatum. E.

P. glaberrimum; culmo repente, ramoso; foliis linearibus; spicis plerumque binis, terminalibus, folio terminali vaginatis. E.

Very glabrous; stem creeping, branching; leaves linear; spikes generally two, terminal, sheathed by a terminal leaf.

Stem 12—18 inches long, slightly compressed, much branched near the summit. *Leaves* linear, short (1—2 inches), acute; the sheaths of the upper leaves longer than the joints, and sometimes there are 2 leaves from each joint. *Spikes* at the extremity of each branch, one nearly sessile, the other on a peduncle 1—2 inches long: a leaf from the summit of the branch with its sheath envelopes the sessile spike and the peduncle of the other. *Rachis* linear, straight, wide, the back flat, the sides inflexed and covering one half the flower, finely fringed. *Flowers* in two rows, one from each bud, sessile. *Valves* of the *calyx* equal, ovate, nearly acute, 3 nerved.

This species seems to connect this genus to the Ceresia. Yet it may be remarked that in this plant the valves of the calyx are equal, the midrib distinct, and the structure exactly similar to the other species of paspalum. In the Ceresia the valves of the calyx are unequal, and the midrib altogether wanting. The rachis in this, is wide and covers a part of the flower, but in the Ceresia, it so completely protects the flower that the calyx becomes colourless (etiolated).

Grows in humid soils. Near Savannah—Dr. Baldwin.

Flowers in the Summer. *Sheathed Paspalum.*

CERESIA. Persoon.

Flosculi laterales, bifarii, sub rachi lata, membranacea, cymbiformi. *Calyx* 2-valvis, 1-florus.

Flowers lateral, two rowed, under a wide, membranous, boat-shaped rachis. *Calyx* 2 valved, 1 flowered.

1. Fluitans. E.

C. culmo repente, ascendenteque, plerumque fluitante; foliis scabris; spicis plurimis, glumis calycinis albis, punctatis, parce pilosis.

Stem creeping and ascending, generally floating; leaves scabrous; spikes numerous; glumes of the calyx white, dotted, a little hairy.

Paspalum membranaceum? Walt. p. 75.
P. mucronatum, Muhl. Cat.

Root annual? *Stem* procumbent, creeping and assurgent, 1—3 feet long, a little compressed, very glabrous. *Leaves* 2—3 inches long, 4—5 lines wide, the under surface slightly glaucous; sheaths generally shorter than the joints, hairy at base; stipule membranous, lacerate. *Spikes* 20—30, slightly recurved. *Rachis* wide, keeled, acute, scabrous, the margins and keel finely serrulate, covering the flowers (as with a roof), that are arranged along its under surface. *Calyx*, glumes ovate, acute, (without a midrib,) dotted, white, with the two marginal nerves green, sprinkled with hair; the exterior valve a little longer, bifid at the summit. *Corolla* 2 valved, a little smaller than the calyx; valves ovate, acute, equal, the exterior convex, the interior flat. *Nectaries* 2, small, ovate. *Filaments* 3. *Anthers* white. *Styles* 2, shorter than the corolla. *Stigmas* feathered, white. *Seed* nearly oval.

Grows in the river swamps. Ogechee. In rice fields.

Flowers September—November. *Floating Ceresia.*

PHLEUM. Gen. pl. 109.

Calyx 2-valvis, sessilis, linearis, truncatus, apice bicuspidatus. *Corolla* inclusa.	*Calyx* 2 valved, sessile, linear, truncate, with the summit 2 pointed. *Corolla* inclosed.
1. **Pratense.**	
P. spica cylindrica, longissima, ciliata; culmo erecto. Sp. pl. 1. p. 354.	Spike cylindrical, very long, ciliate; stem erect.

Root perennial. *Stem* erect, columnar, glabrous. *Leaves* linear-lanceolate, serrulate, scabrous; sheaths somewhat scabrous, longer than the joints; stipules membranous, lacerate. *Flowers* in a compound spike. *Spikelets* many flowered, appressed. *Calyx* 2 valved, valves equal, hairy, ciliate, the back somewhat aculeate, truncate, with the midrib extended to an awn twice the length of the valves. *Corolla* 2 valved, much smaller than the calyx.

Grows on Sullivans Island, originating no doubt from imported seed. From its having naturalised itself on that island, it is probable that this valuable grass merits attention from our farmers. In that barren soil it was humble, scarcely exceeding 6—10 inches in height.

Flowers in June—July. *Meadow Phleum—Timothy.*

ALOPECURUS. Gen. pl. 102.

Calyx 2-valvis. *Corolla* 1-valvis.	*Calyx* 2 valved. *Corolla* 1 valved.

1. GENICULATUS ?	
A. culmo geniculato ; calycis carinis ciliatis ; aristis gluma duplo longioribus. E.	Stem geniculate ; keels of the calyx ciliate ; awn twice as long as the corolla.

Sp. pl. p. 358.
A. pratensis? Walt. p. 74.

Root perennial. *Stem* geniculate, ascending, terete, very glabrous, about one foot high. *Leaves* 2—4 inches long, 2—3 lines wide, glabrous, the margins and upper surface a little roughened ; sheaths shorter than the joints, glabrous ; stipules ovate, membranous. *Flowers* in a compound cylindrical spike ? closely appressed. *Calyx* 2 valved : valves equal, obtuse, compressed, hairy, the keel ciliate, almost villous. *Corolla* 1 valved, as long as the calyx, glabrous, obtuse, with an awn attached to its base twice as long as itself. *Anthers* white. *Stigmas* white, almost simple.

Grows in damp and clayey soils. In rice fields, common.

Flowers in March.

PANICUM. GEN. PL. 107.

Calyx 3-valvis ; valva exteriore minima.	*Calyx* 3 valved ; exterior valve very small.
1. CENCHROIDES. E.	
P. spica tereti, stricta ; involucro multipartito, unifloro, laciniis tereti-subulatis, rigidis, scabris, flosculos paulo superantibus. E.	Spike terete, strict ; involucrum many parted, one flowered, the segments terete, subulate, rigid, scabrous, a little longer than the florets.

Root perennial ? *Stem* erect, terete, scabrous near the spike. *Leaves* long, 5—7 lines wide, flat, scabrous on the inner surface, rather smooth on the outer, contracted and hairy at the throat ; sheaths longer ? than the joints. *Flowers* in a compact, appressed, rigid spike. *Involucrum* many cleft, the exterior segments very short, the interior a little longer than the flower, all rigid and somewhat pungent. *Calyx* 3 valved ; the accessory valve about half the length of the others ; proper valves nearly equal, 5—7 nerved. *Valves* of the *corolla* equal, rather longer than the calyx. *Anthers* purple. *Stigmas* feathered, white.

For this species I am indebted to Dr. Baldwin, who found it on Jekyl Island, Georgia.

Flowers *Spiny Panicum.*

2. Lævigatum. Muhl. Cat.

P. glaberrimum; culmo compresso; spica tereti; spiculis unifloris; involucellis aristis decem.

Plant very smooth; stem compressed; spike columnar; spikelets one flowered; involucels 10 awned.

Root perennial? *Stem* procumbent, 1—2 feet high, much compressed, lower joints very short. *Leaves* narrow, acute, slightly channelled, very smooth, frequently longer than the stem, margins entire; sheaths smooth, compressed, lower one much longer than the joints, so that the leaves appear imbricate and distichous. *Rachis* pubescent. *Filaments* 3. *Anthers* purple. *Styles* 2, as long as the corolla. *Stigmas* feathered, purple. *Seed* nearly smooth.

This species has great affinity to the P. glaucum. It differs by its more compressed stem, its longer leaves, its spikelets generally one flowered, and a corolla so smooth that transverse striæ can only be discovered by a good lens.

Grows on the sea islands, (on Edings' plentifully,) along the margins of the salt water.

Flowers through the summer. *Smooth Panicum.*

3. Glaucum.

P. spica tereti; involucellis bifloris, fasciculato-pilosis; seminibus undulato-rugosis. Sp. pl. 1. p. 335.

Spike cylindrical; involucels two flowered, hairy, fasciculate; seeds crossed by undulate wrinkles.

Mich. 1. p. 46.
P. alopecurodeum, Walt. p. 72.

Root annual. *Stem* 2—3 feet high, slightly compressed, glabrous. *Leaves* linear-lanceolate, very acute, margins serrulate, upper surface scabrous, the under nearly smooth. *Spike* composed of spikelets which shoot out at first several buds, perhaps one for each awn, but generally mature only one or two seeds. *Awns* 8—10, divided into two fascicles, 2—3 times as long as the flower. *Calyx* 3 valved, glabrous; the exterior valve small, ovate, acute, 3 nerved; the next lanceolate, slightly mucronate, concave, 5 nerved; the interior longer, nearly flat, with the margins inflexed, acute, 5 nerved. *Corolla* 2 valved; the exterior ovate, concave, obscurely 5 nerved, transversely rugose; interior flat, 2 nerved, more faintly rugose. *Filaments* 3. *Anthers* orange-coloured. *Styles* 2, longer than the corolla. *Stigmas* feathered, purple.

We have of this plant three very distinct varieties.

1. Glaucum? plant growing in small detached bunches, 12—18 inches high. Stem and leaves erect. Leaves on the upper surface glaucous: spikelets 1 flowered: rachis pubescent, almost tomentose; awn sometimes tinged with purple.

2. Flavescens. Stem procumbent, taking root at the lower joints, 2—3 feet long: leaves long, decumbent: rachis villous; spikelets 1 flowered; the whole plant has a yellow hue.

3. Purpurascens. Somewhat decumbent, 12—15 inches high; leaves short, expanding, upper part of the stem naked; spike small; rachis hirsute; spikelets frequently 2 flowered; transverse wrinkles of the seed much coarser in this than in the preceding varieties; awns purple, and the glumes of the mature seed.

Dr. Muhlenberg once considered this variety as a distinct species, which he proposed to call P. medium, as intermediate between P. glaucum and germanicum. He however omitted it in his catalogue, and I have for the present arranged it here.

Grows. The 1st. near Charleston, appearing to prefer the vicinity of salt water; the 2d every where excepting in inundated lands; the 3d. in dry sandy pastures; on Paris Island, common. Found also on Charleston neck.

Flowers through the whole summer. *Glaucous Panicum.*

4. CORRUGATUM. E.

P. spica tereti, composita, setosa; spiculis multifloris (7—10); corollis transverse rugosis. E.	Spike terete, compound, bristly; spikelets many flowered. (7—10); corolla transversely rugose.

Stem 2—3 feet high, terete, slightly scabrous. *Leaves* 8—12 inches long, 3 lines wide, acute, very scabrous; upper sheaths longer than the joints, scabrous; stipules hairy. *Flowers* in a compact, terete spike, 6 inches long, composed of many appressed spikelets; 7—10 fertile flowers, and as many sterile on each spikelet. *Involucrum*, a bristle at the base of each floret, whether sterile or fertile, 3 or 4 times as long as the floret. *Calyx* 3 valved; accessary valve half as long as the proper valves, all 5 nerved. *Corolla* as long as the calyx; exterior valve and the seed transversely wrinkled. *Anthers* and *Stigmas* dark purple.

This species has much resemblance to the P. Italicum, but is smaller, and its flowers have the structure of the P. glaucum.

Sent to me from Savannah by Dr. Baldwin.

Flowers *Wrinkled Panicum.*

5. ITALICUM.

P. spica composita, basi interrupta, nutante; spiculis glomeratis; involu-	Spikes compressed, nodding, interrupted at base; spikelets clustered; invo-

cellis setaceis flore multo longioribus; rachi tomentosa. Sp. pl. 1. p. 336.	lucels with bristles much longer than the flower; rachis tomentose.

Walt. p. 72.

Root perennial. *Stem* 2—10 feet high, erect, a little compressed. *Leaves* nearly 3 feet long, 1½ inches wide, channelled, scabrous; sheaths as long as the joints, scabrous without, glabrous within, the throat and margins near the throat, ciliate. *Spikelets* many flowered, at the base of the spike a little remote, towards the summit crowded. *Awns* 4—6 times as long as the flower, 2, 3, or more, at the base of each floret, perhaps one only for each bud. *Rachis* angled, very villous; not tomentose. *Calyx* 2 flowered, hermaphrodite and male, nearly as in P. glaucum. *Corolla* smooth; *of the male flower*, one valved, membranous, as long as those of the hermaphrodite flower; the margins inflexed, the angles nerved and ciliate. *Filaments* 3. *Anthers* pale yellow. *Stigma* feathered, purple? *Seed* very smooth.

Grows in ponds and wet soils.
Flowers August—September. *Large-spiked Panicum.*

6. Crus Galli.

P. spicis alternis, conjugatisque; spiculis subdivisis; glumis aristatis, hispidis; rachi quinquangulari. Sp. pl. 1. p. 337.	Spikes alternate and by pairs; spikelets subdivided; glumes awned, hispid; rachis five angled.

Mich. 1. p. 46.
P. hirtellum, Walt. p. 72.

Root annual. *Stem* erect, 2—4 feet high, terete, glabrous. *Leaves* 1—2 feet long, 6—10 lines wide, channelled, somewhat scabrous, acutely serrulate. *Flowers* crowded on spikes which form a terminal panicle. *Rachis* very scabrous, hairy. *Calyx* 2 flowered, hermaphrodite, and neuter; accessory valve very small, terminated by a short awn; exterior valve lanceolate, concave, with an awn 5 times its own length; interior lanceolate, flat, with an awn 10 times its own length; valves nerved, and hispid. *Corolla* slightly pubescent; valve of the neutral floret small, lanceolate, membranous. *Filaments* 3. *Anthers* saffron coloured. *Stigmas* feathered, purple. *Seed* smooth.

Of this species we possess three remarkable varieties.

1. muticum, valves of the calyx without awns, only acuminate and hispid. Rachis scabrous, not hairy.

2. aristatum, as described above. Awns sometimes shorter.

3. hispidum. (P. hispidum, Muhl. Cat.) with the sheath of the leaves very hispid, the bristles glandular and jointed. Awns shorter than in the second variety.

Grows. 1 rare. 2 very common in wet ground: well known to rice planters as the red shank grass. 3 on Eding's Island, around ponds.

Flowers through the summer. *Cocksfoot Panicum.*

7. WALTERI.

P. spicis alternis. subappressis, unilaterifloris; floribus triseriatis, muticis; gemmis bifloris. E.	Spikes alternate, generally appressed, flowering on one side; flowers in 3 rows, unawned; buds 2 flowered.

P. dimidiatum, Walt. p. 72.

Root annual? *Stem* erect, strict, 2 feet high, slender, glabrous. *Leaves* 4—6 inches long, 2—3 lines wide, glabrous, expanding horizontally; sheath open, glabrous, generally shorter than the joints, at the throat ciliate. *Spikes* 7—12, the lower ones remote, about 1 inch long. *Rachis* triquetrous, scabrous. *Calyx* 2 flowered, hermaphrodite, and male. Valve of the small flower lanceolate, nearly flat, with the margins inflected, as large as those of the hermaphrodite flower. *Filaments* 3. *Anthers* purple; of the male flower similar. *Stigmas* purple.

This species sometimes approaches to the var. muticum, of the P. Crus Galli, but its spikes are always smaller and more remote; its flowers too are smaller, and the calyx less hairy.

Grows in damp soils. On Charleston neck, common. Macleod's pond, 6½ miles from Savannah, on the Ogechee road.

Flowers through the summer. *Walter's Panicum.*

8. HIRTELLUM.

P. spica composita; spiculis appressis, alternis; calycis valvulis omnibus aristatis, extima longissima. Sp. pl. 1. p. 340.	Spike compound; spikelets appressed, alternate; valves of the calyx all awned, exterior awn very long.

Mich. 1. p. 47.

Root perennial. *Stem* procumbent, creeping, sometimes ascending, slightly compressed, hairy, particularly at the joints. *Leaves* ovate-lanceolate, acute, scabrous, undulate, sprinkled with short hairs, the base almost contracted to a petiole, which afterwards dilates into a sheath shorter than the joints, with the margin and throat hairy. *Spikes* compound, remote, composed of spikelets 5—8 flowered, resembling fascicles. *Rachis* short, angled, villous. *Calyx* 1 flowered; awns all purple; that of the accessory valve the longest. *Anthers* white. *Stigmas* feathered, sanguineous

I can find nothing in the structure of the flower to authorise the expression "calycibus geminis" in the specific character by Linnæus. I have therefore omitted it.

Grows in rich, dry, shaded soils.
Flowers August—October. *Creeping Panicum.*

9. Gibbum. E.

P. racemis multifloris, appressis, spicam teretem referentibus; calycis valvulis conspicue nervosis, exteriore basi gibba; floribus caducis. E.	Racemes many flowered, appressed, resembling a columnar spike; valves of the calyx strongly nerved, the exterior gibbous at base; flowers caducous.

Root annual? *Stem* ascending and erect, columnar, glabrous; lower joints sometimes taking root. *Leaves* linear-lanceolate, somewhat scabrous, pubescent, expanding; sheaths shorter than the joints, the lower ones hispid, the upper nearly smooth. *Calyx* 2 flowered, hermaphrodite and neuter; nerves of the valves like ribs; valves loosely appressed, and like the whole plant, tinged with dark purple. *Corolla*, valves of the hermaphrodite flower only half as long as the calyx; of the neutral floret, a little shorter than the calyx. *Anthers* white.

Grows in damp and wet soils.
Flowers through the summer. *Purple Panicum.*

10. Molle.

P. spicis paniculatis, alternis, secundis, patentibus; spiculis approximatis, pedicellatis, secundis, muticis. Sp. pl. 1. p. 340.	Spikes panicled, alternate, expanding, flowering on one side; spikelets approximate, pedicillate, on one side, awnless.

Mich. 1. p. 47.

Root fibrous, perennial. *Stem* erect, 4—6 feet high, columnar, below smooth, towards the summit cloathed with soft down, the joints tinged with purple, and pubescent. *Leaves* 12—18 inches long, glabrous, channelled, the margins nearly entire; the sheath as long as the joints, glabrous; the throat ciliate, pubescent and purple on the outside. *Flowers* in racemes? buds in two rows, 2—3 flowered, one or two of which are frequently abortive. *Rachis* triquetrous, very villous. *Calyx* two valved? two flowered, hermaphrodite and male; valves concave, acute, hairy, the exterior a little longer. *Corolla* of the hermaphrodite flower two valved, shorter than the calyx; of the male flower one valved, membranous, as long as the calyx. *Anthers* purple. *Stigmas* purple. *Nectarium* a two lobed gland, nearly as long as the germ.

Allied to the genus Milium.

Grows in the vallies of the sea islands, on Chaplin's Island particularly. Plant salt and bitter.

Flowers August—September. *Soft Panicum.*

11. GYMNOCARPON. E.

P ? spicis paniculatis ; spiculis biseriatis, paucifloris ; calycis valvis subæqualibus, patentibus, corolla multo longioribus. E.	Spikes paniculate ; spikelets in two rows, few flowered ; valves of the calyx nearly equal, expanding, much longer than the corolla.

Root fibrous, perennial. *Stem* erect, 2—4 feet high, triquetrous ? glabrous. *Leaves* 12—14 inches long, cordate, glabrous, with the margins finely serrulate ; sheaths as long as the joints, striate ; stipules obsolete. *Panicle* simple ; branches clustered, opposite, or alternate. *Flowers* in two rows, on one side of the branches, in small spikes 3—5 flowered. *Calyx* 3 valved ; valves lanceolate, 3 nerved, slightly keeled, nearly of an equal length ; the interior with the point slightly inflected. *Corolla* 2 valved, not half as long as the calyx ; the valves equal, cartilaginous. *Anthers* and *Stigmas* ? purple. As the valves of the calyx do not close, the seed as it matures becomes very conspicuous, as in Scleria.

From specimens collected near Savannah, by Dr. Baldwin.

Flowers August—September.

** *Paniculatæ.*	** *Flowers in panicles.*
a. Floribus confertis racemosis.	*a. Flowers crowded in racemes.*

12. GENICULATUM. Muhl. Cat.

P. culmo assurgenti, geniculato, glaberrimo ; paniculis terminalibus, axillaribusque, diffusis, patentibus ; vaginis foliorum inflatis. E.	Stem assurgent, geniculate, very glabrous ; panicle terminal and axillary, diffuse and expanding ; sheaths of the leaves inflated.

P. dichotomiflorum ? Mich. 1. p. 48.
P. miliaceum, Walt. p. 72.

Root annual. *Stem* 3—6 feet high, sometimes at base nearly an inch in diameter, very much bent and branching at every joint.

Leaves 6—24 inches long, 6—10 lines wide, hairy and scabrous on the upper surface, glabrous on the under; sheath shorter than the joints, nearly smooth, a little hairy at base, very much inflated when young; stipules bearded. *Panicles* large. *Calyx* one flowered; accessory valve very short, and generally acute. *Anthers* saffron-colour. *Stigmas* purple. *Nectaries*, 2 ovate, compressed, white glands at the base of the germ.

Grows in wet soils. In rice fields common.

Flowers August—October. *Geniculate Panicum.*
Large Water Panicum.

13. ANCEPS. Mich.

P culmo compresso; vaginis pilosis, ancipitibus; panicula racemosa, pyramidata, floribus appresssis; ramulis plerumque divaricatis. E.

Stem compressed; sheaths hairy, ancipitous; panicles racemose, pyramidal, with the flowers appressed; branches frequently divaricate.

Mich. 1. p. 48.—Pers. 1. p. 84.

Root perennial. *Stem* 2—4 feet high, erect, geniculate near the base, branching, much compressed. *Leaves* 6—18 inches long, 2—3 lines wide, hairy, serrulate; sheaths longer than the joints; stipules membranous. *Panicle* oblong, frequently turned much to one side, branches alternate and by pairs, expanding, and divaricate, some of them occasionally bending down as if broken. *Flowers* in crowded racemes. *Calyx* 3 valved, 2 flowered, hermaphrodite and neuter; valves acute, somewhat keeled, proper valves compressed at the joints. *Corolla* shorter than the calyx; valve of the male floret ciliate. *Anthers* and *Stigmas* purple.

Varies very much in size and pubescence.

Grows in ditches, and wet soils. Common along roads.

Flowers August—November. *Compressed Panicum.*

14. HIANS. E.

P. glabrum; culmo gracili, decumbente; panicula racemosa; valva floris neutri elongata, concava, hiante. E.

Stem glabrous, slender, decumbent; panicle racemose; valves of the neutral floret long, concave, gaping.

P. divaricatum? Mich. 1. p. 50.

Annual? *Stem* 10—15 inches high, slender, decumbent; slightly geniculate. *Leaves* linear, acute, fringed near the base; sheath short, contracted and a little hairy at the throat. *Panicle* small, with branches remote, expanding, bearing their flowers in small clustered racemes. *Valves* of the *calyx* generally 3 nerved, ovate, acute;

the interior valve the largest. *Corolla*, of the fertile floret 2 valved, ovate, cartilaginous, as large as the interior valve of the calyx; of the sterile floret one valved, larger than the calyx, acuminate, membranous, particularly along the margin, concave, forming with the interior valve of the calyx a neutral floret, open at the summit.

This is probably the P. divaricatum of Michaux. The neutral floret however is not pedicillate; the other differences may easily have arisen from difference of soil and situation. As Linnæus had already employed this name, I have given one which appears more characteristic of this species.

Grows in damp pine barrens. Very abundant near Michaux's old farm, 10 miles from Charleston.

Flowers August—October. *Gaping Panicum.*

b. Floribus diffusis solitariis.	*b. Flowers scattered, solitary.*

15. Latifolium.

P. panicula racemis lateralibus simplicibus; foliis ovato-lanceolatis, collo pilosis. Sp. pl. 1. p. 350.	Panicle with the lateral racemes simple; leaves ovate-lanceolate, hairy at the throat.

Walt. p. 73.
Mich. 1. p. 49.

Root perennial. *Stem* procumbent, about 1 foot high, columnar, pubescent, sometimes branching. *Leaves* almost heart-shaped, glabrous, pale underneath, finely serralate; 3—4 inches long, 1—1½ wide, embracing the stem: sheath hairy, at the throat, base, and along the margins bearded. *Calyx* 2 flowered, hermaphrodite and neuter, pubescent; flowers large. *Corolla*, valves of the hermaphrodite flower as large as the calyx, of the neuter smaller. *Anthers* and *Stigmas* purple.

Grows in dry, rich soils, preferring shade.

Flowers through the summer. *Broad-leaved Panicum.*

16. Scoparium. La Marck.

P. culmo, vaginisque villosissimis; foliis supra glabris; panicula pauciflora; floribus obovatis majusculis. E.	Stem and sheaths very villous; leaves glabrous on the upper surface; panicle few flowered; flowers obovate, very large.

Root perennial. *Stem* erect, about 2 feet high, sometimes branching, columnar, almost hispid. *Leaves* 3—6 inches long, 1—1½ inches wide, serrulate, slightly waved, pubescent and soft underneath, glabrous, though sometimes sprinkled with hair on the upper surface. *Flowers* larger than in any other of our species. *Calyx* 2 flowered, hermaphrodite and neuter, pubescent; accessory valve ovate, acute, small; proper valves obovate. *Corolla*, valve of the neutral floret one half as large as those of the hermaphrodite. *Anthers* and *Stigmas* dark purple. *Nectaries*, two glands at one side of the germ, obovate, unequally two cleft at the summit.

Grows in shaded places. Somewhat rare. From the P. viscidum it differs, by its flowers twice as large, by its leaves glabrous on the upper surface, by its stem not viscid, nor marked by the ring which characterises the other species.

Flowers April—May, perhaps through the summer.

Large seeded Panicum.

17. PAUCIFLORUM. E.

P. panicula patente pauciflora; floribus majusculis; foliis angusto-lanceolatis, basi ciliatis; vaginis pilosis. E.

Panicle expanding, few flowered; flowers very large; leaves narrow-lanceolate, ciliate at base; sheaths hairy.

Root perennial. *Stem* 12—18 inches high, erect, slightly geniculate, and disposed to branch at every joint, a little roughened. *Leaves* 3—4 inches long, 3—4 lines wide, lanceolate, very acute, very glabrous on the upper surface, a little roughened on the under, fringed with long hairs, particularly near the base; sheaths shorter than the joints, hairy, with the throat bearded. *Panicle* small. *Flowers* solitary, racemose, oval, slightly pubescent; accessory valve very small. *Anthers* ? and *Stigmas* dark purple.

Grows in close damp soils. In Georgia, not very rare. Resembles P. Scoparium in fruit, and P. villosum somewhat in habit; much more glabrous than either.

Flowers May. *Few-flowered Panicum.*

18. VIRGATUM.

P. culmo foliisque glaberrimis; panicula diffusa, maxima; glumis acuminatis, lævibus. E.

Stem and leaves very glabrous; panicle diffuse, very large; glumes acuminate, smooth.

Sp. pl. 1. p. 352.
Mich. 1. p. 48.
Clayton, p. 12, No. 578 and 606.

Root perennial. *Stem* 4—6 feet high, erect, columnar. *Leaves* 1—2 feet long, ½ inch wide, slightly channelled, sometimes irregularly serrulate: sheath shorter than the joints; stipules fringed. *Panicle* pyramidal, the central branches frequently verticillate. *Calyx* 2 flowered, hermaphrodite and male; accessory valve one third shorter than the others, acuminate, nearly awned; the others concave, acuminate. *Corolla*, valve of the male floret lanceolate, as long as the calyx. *Anthers* purple. *Stigmas* white?

Grows along the margins of the salt water. Very common on the sea shore, but not altogether confined to saline soils.

Flowers August—September. *Sea-shore Panicum.*

19. AMARUM. E.

P. glaberrimum; foliis crassis, glaucisque; panicula appressa; glumis acuminatis. E.	Plant very glabrous; leaves thick, glaucous; panicle appressed; glumes acuminate.

Root perennial? *Stem* 2—3 feet high, columnar, thick, nearly an half inch in diameter. *Leaves* nearly flat, almost coriaceous, the margins very entire; sheaths shorter than the joints, tinged with yellow: the throat contracted, purple; stipules villous. *Panicle* large, branches all appressed. *Flowers* very large. *Peduncles*, which in every other species are very scabrous, and generally hairy, are glabrous and nearly smooth. *Calyx* 2 flowered, hermaphrodite and male: valves glabrous and tinged with purple. *Corolla*, valve of the male floret as large as those of the hermaphrodite. *Anthers* orange-coloured. *Stigmas* purple. *Nectaries* 2, ovate at the base of the germ.

Grows among the sand hills on the sea shore. Leaves excessively bitter. Walter, in his P. coloratum, seems to have confused this with the preceding species. They appear to me very distinct.

Flowers October. *Bitter Panicum.*

20. SCABRIUSCULUM. E.

P. culmo erecto, majusculo, foliisque subtus scabriusculis; panicula majuscula, pyramidata, patente: floribus ovatis, acutis, glabris. E.	Stem erect, large, and with the under surface of the leaves scabrous; panicle large, pyramidal, expanding: flowers ovate, acute, glabrous.

Root 2—3 feet high, terete, slightly pubescent and scabrous. *Leaves* linear-lanceolate, 3—6 inches long, acute, glabrous on the upper surface, pubescent and a little scabrous on the under, sharply serrulate; sheaths long, but shorter than the joints, striate, pubescent, slightly scabrous, contracted and hairy at the throat. *Panicle* large, 8—10 inches long, diffused, the branches glabrous. *Flowers* of a middling size, glabrous.

In habit resembles P. virgatum, but every way smaller; differs also in its pubescent stem and leaves.

Sent to me from Savannah by Dr. Baldwin.

Flowers *Rough-stemmed Panicum.*

21. NERVOSUM. Muhl.

P. culmo erecto, glabro; foliis lanceolatis, acutissimis, nervosis, subcordatis, basi vaginaque ciliatis; panicula diffusa; floribus majusculis. E.

Stem erect, glabrous; leaves lanceolate, very acute, nerved, slightly cordate, the base and sheath ciliate; panicle diffused; flowers large.

P. brevifolium? Walt. p. 73.

Perennial. *Stem* about 2 feet high, terete, glabrous. *Leaves* lanceolate, 3—5 inches long, scabrous on the upper surface and margins, glabrous underneath, fringed at the base and along the margins of the sheath; stipules obsolete; nerves of the leaves more conspicuous than usual in this genus. *Panicle* diffused. *Flowers* on slender peduncles, pubescent, rather large. *Anthers* and *Stigmas* dark purple.

This species has some resemblance to P. latifolium, but is taller; its leaves are narrower and less cordate; its panicle larger, while the flowers are smaller, and do not form such regular racemes on the lower branches.

Grows in dry, shaded soils.

Flowers May—July. *Nerved-leaf Panicum.*

22. MULTIFLORUM. E.

P. culmo erecto, simplici, glabro; foliis latolanceolatis, basi pilosis; panicula ramosissima, patente; floribus parvulis, pubescentibus. E.

Stem erect, simple, glabrous; leaves broad, lanceolate, hairy at base; panicle much branched, expanding; flowers small, pubescent.

Perennial. *Stem* 2—2½ feet high, terete, glabrous. *Leaves* 4—6 inches long, 1 wide, glabrous, smooth, with the edges scabrous, and slightly undulate; hairy and ciliate at the base; sheaths slightly pubescent; stipule obsolete. *Flowers* in a long panicle, much divided, small, (about the size of those of P. barbulatum), pubescent, oval. *Accessory valve* of the *calyx* very minute. *Anthers* and *Stigmas* dark purple.

Grows in shaded, dry soils.

Flowers May—July. *Many-flowered Panicum.*

23. OVALE.

P. pubescens; panicula diffusa: floribus oblongis, ovalibus, pilosis: foliis ovato-lanceolatis, subcordatis.	Pubescent; panicle diffused; flowers oblong, oval, hairy; leaves ovate-lanceolate, slightly cordate.

Stem 1—2 feet high, terete. *Leaves* 3—4 inches long 4—6 lines wide, hairy at base, and more cordate than usual in grasses; sheaths shorter than the joints, except the upper ones, which are sometimes crowded, contracted at the throat. *Panicle* many flowered. *Flowers* when young elliptic. *Accessory valves* of the *calyx* about one third the length of the real valves.

This species is distinguished among my specimens by the figure of its flowers. It varies much in pubescence: some specimens being villous in every part, and others almost glabrous; the calyx is always hairy.

Grows in Carolina and Georgia. Sent from St. Mary's, Georgia, by Dr. Baldwin.

Flowers

Oval-flowered Panicum.

24. LANUGINOSUM.

P. pubescens; panicula diffusa, subcapillari; floribus ovalibus, parvulis; foliis angusto-lanceolatis; vaginis collo villosis. E.	Pubescent; panicle diffused, somewhat capillary: flowers oval, small; leaves narrow lanceolate; sheaths villous at the throat.

Perennial. *Stem* 1—2 feet high, pubescent, hoary. *Leaves* linear or narrow-lanceolate, acute, cloathed with short down: sheaths shorter than the joints, very hairy or woolly at and near the throat. *Panicle* expanding. *Flowers* small, obovate, nearly round.

This is an intermediate species between P. viscidum and P. strigosum, smaller than the former, and every way larger than the latter. The peduncles, which are hairy in the P. strigosum, are smooth in this species. Its flowers are scarcely half as large as those of the P. villosum, to which it has in habit some resemblance, and smaller than those of the P. multiflorum.

Grows in Georgia. Sent to me by Dr. Baldwin.

Woolly-jointed Panicum.

VISCIDUM. E.

P. pubentissimum, canescens, viscidum; culmo	Whole plant very downy, hoary, glutinous;

infra nodos annulatim glabro. E.

the stem beneath each joint marked with a smooth ring.

Mich. 1. p. 49.

Root perennial. *Stem* erect and decumbent, 2—4 feet high, branching, viscid, particularly near the joints, just below each joint a ring about 2 lines wide, appears smooth, though it is not entirely so. *Leaves* 3—6 inches long, 1—1½ inch wide, a little cordate, very soft, fringed, sometimes undulate; sheaths viscid. *Panicle* expanding. *Flowers* rather distant, obovate, of a middling size. *Calyx* 2 flowered, hermaphrodite and neuter, pubescent. *Corolla*, valve of the neutral flower very small. *Anthers* and *Stigmas* purple.

Grows in damp, close soils. Stem sometimes perennial.

Flowers June. *Viscid Panicum.*

26. Dichotomum.

P. procumbens; panicula simplici; culmo superne dichotomo; ramulis fasciculatis. E.

Procumbent; panicle simple; stem dichotomous above; branches fasciculate.

Sp. pl. 1. p. 346.
Clayton, p. 12. No. 458.

Root perennial. *Stem* somewhat perennial, 2 feet high, geniculate, columnar, hairy, below simple, much branched towards the summit. *Leaves* 1—3 inches long, 2—4 lines wide, finely serrulate, flat, cloathed with soft down, and hairy; sheath short and hairy; stipules bearded. *Panicles* small. *Flowers* small. *Calyx* 2 flowered, hermaphrodite and neuter. *Anthers* and *Stigmas* purple.

In shaded places this plant is almost glabrous; in pastures and exposed situations very pubescent.

Grows in pastures and woods. Common.

Flowers June—October. *Many-branched Panicum.*

27. Villosum. E.

P. villosum; culmo erecto, subramoso; panicula pauciflora; floribus obovatis; foliis erectis, planis, rigidis.

Whole plant villous; stem erect, a little branched; panicle few flowered; flowers obovate; leaves erect, flat, rigid.

Root perennial. *Stem* erect, 1—2 feet high, slightly geniculate, very villous at the joints. *Leaves* 3—5 inches long, 3—4 lines wide, flat, erect, finely serrulate, hairy; sheaths shorter than the joints stipules bearded. *Calyx* 1 flowered: glumes rather obovate. *Anthers* and *Stigmas* dark purple. *Nectaries* 2, turbinate, 2 cleft at the summit.

Near P. dichotomum. Differs in habit and the period of flowering; the margin of the leaves somewhat reflexed, and the whole plant cloathed with soft, white hair.

Grows in damp places. Flourishes through the winter.

Flowers April—May. *Villous Panicum.*

28. SPHÆROCARPON.

P. foliis lineari-lanceolatis, acutissimis, basi vaginisque ciliatis; panicula patente; floribus parvulis subrotundis, pubescentibus. E.	Leaves linear-lanceolate, very acute, with the base and sheath ciliate; panicle expanding; flowers small, nearly round, pubescent.

Perennial *Stem* 12 18 inches high, terete, glabrous. *Leaves* nearly lanceolate, very acute, sometimes acuminate, glabrous, a little scabrous on the upper surface, fringed at the base with long hair; the lower sheaths much longer than the joints, sometimes villous at base *Panicle* expanding, many flowered. *Calyx* slightly pubescent. *Corolla* nearly globular. *Stigmas* pale purple.

From the P. pubescens, to which this plant has great resemblance, it differs in its leaves, which are coarser, more rigid, less delicately nerved, and much less hairy. Its flowers too are smaller, and more spherical. Both are remarkable for their pale delicate green colour.

Grows in Georgia. Dr. Baldwin.

Flowers April. *Round-seeded Panicum.*

29. PUBESCENS. La Marck.

P. culmo erecto decumbenteque, glaberrimo; foliis, vaginis, floribusque pilosis; panicula gracili, patente. E.	Stem erect and decumbent, very glabrous; leaves, sheaths, and flowers hairy; panicle slender, expanding.

P. pubescens? Mich. 1. p. 49.

Root perennial. *Stem* 6—18 inches high, rarely branched. *Leaves* 2—5 inches long, 3—5 lines wide, pale green, flat, ciliate, hairs soft, almost villous; sheath shorter than the joints; stipules bearded *Calyx* 2 flowered, hermaphrodite and neuter; glumes obovate. *Corolla*, glumes of the hermaphrodite flower, a little shorter than the calyx; of the neutral floret, twice as short. *Anthers* and *Stigmas* dark purple.

Grows in damp, shaded places, flourishing through the winter.

Flowers March—April. *Hairy-leaved Panicum.*

30. **Strigosum.** Muhl.

P. panicula capillari, patente; pedunculis strictis, pilosis; calycibus acutis, lævibus; foliorum vaginis hirsutissimis.	Panicle capillary, expanding; peduncles strict, hairy; calyx acute, smooth; sheaths of the leaves very hirsute.

P. capillare, Walt. p. 72. Mich? 1. p. 47.

Root perennial. *Stem* about a foot high, assurgent and erect, sometimes branched, villous. *Leaves* 2—4 inches long, 3—4 lines wide, sometimes acuminate, flat, ciliate and villous; sheaths as long as the joints, sometimes longer. *Panicle*, for the size of the plant, very large, much branched. *Flowers* small. *Calyx* 2 flowered, hermaphrodite and neuter; glumes obovate, nearly glabrous. *Corolla*, valve of the neutral floret very small. *Anthers* dark purple. *Stigmas* pale purple? *Nectaries* 2, obcordate, longer than the germ.

From the P. pubescens, it differs in its leaves, which are wider for their length, more soft and villous; in its panicle, which is much more divided; in its flowers, which are smaller and more numerous.

Grows in damp soils, flourishing through the winter.

Flowers April. *Hairy-stalked Panicum.*

31. **Ciliatum.** E.

P. culmo decumbente; foliis vaginisque glabris, pulchre ciliatis; panicula pauciflora, patente. E.	Stem decumbent; leaves and sheath glabrous, and finely ciliate; panicle few flowered, expanding.

Root perennial. *Stem* 4—10 inches high, terete, smooth. *Leaves* 1—2 inches long, 4—6 lines wide, pale green: sheaths as long as the joints; stipules merely a lacerated margin. *Calyx* 2 flowered, hermaphrodite and neuter; accessory valve ovate, acute, more than half the length of the proper valves, glabrous; proper valves obovate, pubescent. *Corolla*, valve of the neuter floret small. *Nectaries* 2, obcordate, half the length of the germ. *Anthers* and *stigmas* dark purple.

Grows in damp soils, flourishing through the winter.

Flowers March—April. *Fringed Panicum.*

32. **Ensifolium.** Bald.

P. parvulum, glabrum; foliis ovato-lanceolatis acutissimis, patentibus;	Plant small, glabrous; leaves ovate-lanceolate, very acute, expanding;

panicula parvula, pauciflora; floribus subovatis, pubescentibus. E.

panicle small, few flowered: flowers somewhat ovate, pubescent.

Perennial. *Stem* slender, 12—18 inches high, naked near the summit. *Leaves* ovate-lanceolate, tapering to an acute point, glabrous; sheaths short, glabrous. *Panicle* very small. *Flowers* small, ovate or oval, slightly pubescent.

This seems to be an intermediate species between P. ciliatum, and P. nitidum.

Grows in damp soils, flourishing through the winter. Georgia. Dr. Balwin.

Flowers April—May. *Sword-leaved Panicum.*

33. BARBULATUM. Mich.

P. panicula composita, patente; foliis ovato-lanceolatis, paulo acuminatis, subdivaricatis; culmi nodis barbatis. E.

Panicle compound, expanding; leaves ovate-lanceolate, slightly acuminate, somewhat divaricate; joints of the stem bearded.

Mich. 1. p. 49.

Root perennial. *Stem* slender, generally erect, sometimes geniculate, branching near the base, glabrous except at the joints. *Leaves* 3—4 inches long, glabrous, not channelled, frequently undulate, horizontal or divaricate, at base contracted, almost cordate; sheath glabrous, with the exterior margin and throat ciliate. *Flowers* small. *Calyx* 2 flowered, hermaphrodite and neuter, pubescent. *Corolla*, of the hermaphrodite flower as large as the calyx; of the neuter, 1 valved, small. *Anthers* and *stigmas* purple.

Varies. Stem entirely glabrous, and but half the size of the plant described: a very distinct variety yet resembling the Barbalatum perfectly in habit, structure of the panicle, and size of the flower. This variety appears to be the P. heterophyllum, Schr.—laxiflorum, La Marck.

Grows in damp soils, around pine barren ponds. Along the dams of rice fields.

Flowers April—June, perhaps later. *Bearded Panicum.*

34. MICROCARPON. Muhl.

P. panicula capillari, ramosissima, patente; flo-

Panicle capillary, much divided, expanding; flowribus ovalibus, minutis, glabris; foliis lineari-lanceolatis, glaberrimis. E.

ers oval, minute, glabrous; leaves linear-lanceolate, very glabrous.

Stem erect, terete, glabrous, villous at the joints, with large leaves to the base of the panicle. *Leaves* 4 inches long, 4—5 lines wide, finely serrulate, very acute, generally reflexed; sheaths shorter than the joints, a little hairy at the throat. *Calyx* tinged with purple; accessory valve minute, acute. *Flowers* oblong, glabrous.

From the P. nitidum, this species differs by its flowers, which are larger, glabrous, and oblong; from P. barbulatum, which it strongly resembles, it differs by its larger panicles and leaves, its glabrous flowers, and a more leafy stem.

Flowers *Small-flowered Panicum.*

35. NITIDUM? La Marck.

P. culmo gracili, subramoso, glabro; foliis lineari-lanceolatis; panicula ramosissima, capillari; floribus obovatis, minutis. E.

Stem slender, sparingly branched, glabrous; leaves linear-lanceolate; panicle very much divided, capillary; flowers obovate, minute.

Root perennial. *Stem* erect, branching near the base, nearly naked at the summit, terete, glabrous. *Leaves* very acute, sharply serrulate, a little scabrous, expanding, sometimes reflexed; sheaths shorter than the joints, open, hairy at the throat. *Panicle* diffused, each branch much divided from its base. *Flowers* slightly obovate, nearly spherical, pubescent, very small and numerous. *Calyx* purple, the accessory valve very minute. *Anthers* and *Stigmas* dark purple.

Resembles P. barbulatum in habit, but the flowers are smaller, more numerous, and the joints destitute of a beard.

Grows in close, damp soils.

Flowers April—May. *Smallest-flowered Panicum.*

36. MELICARIUM. Mich.

P. caule debili; foliis angustis; panicula contracta; glumis membranaceis, lanceolatis, subæqualibus; rudimento flosculi stipitato. Pers. 1. p. 84.

Mich. 1. p. 50.

Stem weak; leaves narrow; panicle contracted; glumes membranous, lanceolate, nearly equal; rudiments of a floret on a short footsalk.

Very glabrous. *Leaves* long. *Panicle* slender, long, with few branches : a rudiment of a neutral floret from the base of the hermaphrodite flower. Mich.

Among the many specimens of Panicum which have passed under my inspection, I have not been able certainly to distinguish this species. I insert it from Michaux.

Grows in Carolina and Georgia. Mich.

37. Debile. E.

P. culmo debili, decumbente, ramoso, foliisque glabris ; panicula gracili, diffusa ; pedicellis appressis, plerumque bifloris ; calycibus muricatis. E.	Stem weak, decumbent, branching, and with the leaves glabrous ; panicle diffuse, slender ; pedicels appressed, generally two flowered ; calyx muricate.

P. ramulosum ? Mich. 1. p. 50.

Root perennial. *Stem* 2—4 feet long, geniculate. *Leaves* 6—8 inches long, slightly channelled, serrulate ; sheaths shorter than the joints, contracted and hairy at the throat, fringed along the margin ; stipules very short, ciliate and lanceolate. *Valves* of the *calyx* lanceolate, glabrous, roughened with small tubercles.

Grows in damp, rich, shaded soils. Generally decumbent, reclining on other plants, with long, diffused, straggling panicles. In open ground, it is sometimes found erect, with an expanding panicle of moderate size ; but its slender habit, two flowered peduncles, and rough calyx always distinguish it.

Flowers August—October. *Weak-stemmed Panicum.*

38. Angustifolium. E.

P. panicula pauciflora, patente ; foliis sparsis, lineari-lanceolatis, subtus glabris, parce ciliatis. E.	Panicle few flowered, expanding ; leaves scattered, linear-lanceolate, glabrous underneath, sparingly ciliate.

Stem 1—3 feet high, slender, glabrous. *Leaves* 4—8 inches long, almost linear, fringed with long hair near the base, the upper surface slightly roughened : sheath shorter than the joints, a little hairy. *Panicle* small. *Flowers* solitary, racemose, pubescent, slightly obovate.

I insert this with some hesitation, yet I know not where to refer it. Its fruit resembles P. pubescens, but its straggling habit and linear leaves separate it widely from that species.

Grows in shaded, dry soils.

Flowers May ? *Narrow-leaved Panicum.*

39. Divergens. Muhl. Cat.

P. culmo assurgente, fragili; panicula diffusa; floribus parvulis, solitariis, longissime pedunculatis. E.	Stem assurgent, fragile; panicle diffuse; flowers small, solitary, on very long peduncles.

Root perennial. *Stem* about a foot high, somewhat geniculate and branched, very brittle. *Leaves* subulate, 2—4 inches long, glabrous on the under surface, scabrous on the upper, serrulate; sheaths glabrous, longer than the joints; stipules membranaceous. *Peduncles* setaceous, frequently 3—4 inches long, supporting a single flower, sometimes with one or two branches, tinged with purple, scabrous. *Calyx* one flowered; accessory valve subulate; proper valves lanceolate, slightly ciliate. *Corolla* a little shorter than the calyx. *Anthers* nearly white. *Stigmas* purple.

Grows in very dry, sandy soils, rare. About Beaufort. Dr. Trescott found it also near Charleston.

Flowers June—August. *Long-peduncled Panicum.*

In a genus so extensive as the Panicum, and where, as in the last section, so strong a resemblance prevails in habit and in the structure of the panicle, it becomes extremely difficult without long culture, to fix the limits of each species, and to mark its appropriate character. A change of soil and exposure, will produce variations in a plant which may deceive the most cautious observer; and even in species really distinct, the eye often perceives differences which it is not easy to express.

I have travelled through this genus with more labour than satisfaction, although deriving through the whole of it, the most friendly and valuable aid from the specimens and notes of Dr. Baldwin. And while I have postponed very many specimens that perhaps are real species, I have probably admitted some that are only varieties. I have been unable to subdivide the last section, and mark the divisions by good characters, but to students it may facilitate the knowledge of this genus, to throw into groups the species that are nearly allied, marking after the manner of Salisbury, (Trans. Lin. Soc. 6. p. 316), by stops, the degree of affinity. The seventh section includes those that are independent species, and have no close connexion with each other, or with the preceding sections.

1. Latifolium,
Nervosum;

2. Amarum;
Virgatum,
Scabriusculum.

3. Multiflorum;
Ovale,
Lanuginosum;
Microcarpon.

4. Scoparium,
Pauciflorum,
Viscidum,
Dichotomum;

5. Villosum;
Sphærocarpon;
Pubescens,
Strigosum,
Ciliatum,
Ensifolium;

6. Barbulatum,
Nitidum.

7. Geniculatum;
Anceps.
Hians.
Debile.
Divergens.
Angustifolium.

It would perhaps not be incorrect to consider with Schreber the genus Panicum as uniformly possessing a two valved, two flowered calyx; the valves of the calyx unequal: one very small; one of the flowers hermaphrodite, the other masculine or neuter; the valve of the hermaphrodite flower cartilaginous; the interior valve of the neutral floret generally small and membranous, the exterior resembling the calyx.

From the observations in Rees' Cyclopædia, under the article Panicum, it appears that the most eminent Botanists in Europe are adopting Schreber's view of this genus. It may, however, yet be observed, that the valves of the fertile floret are invariably cartilaginous, almost horny; that the interior valve of the neutral floret, whether small or large, is thin, membranous and very delicate, while the interior or third valve of the calyx, (as usually understood), is exactly similar in substance, texture, colour, nerves, and pubescence to the exterior valve. In considering the genus as two flowered, we are obliged not only to view the flowers as dissimilar, but the valves of the sterile floret as totally unlike each other in structure and substance. I have therefore, in my descriptions, followed the arrangement of Linnæus, considering the calyx as three valved, and the valve of the sterile floret as the rudiment of an imperfect flower. Among our species the P. hians alone appears to corroborate the opinion of Schreber. In that species, the valve of the neutral floret becomes conspicuously large, forming a distinct floret with the inner valve of the calyx, but containing not even the rudiment of a stamen.

DIGITARIA.

Spicæ filiformes, unilateriflore. *Calyx* 2-valvis, uniflorus, valvis inæqualibus. *Corolla* 2-valvis, valvis æqualibus.	*Spikes* filiform, bearing their flowers on one side, *Calyx* 2 valved, one flowered, valves unequal. *Corolla* 2 valved, valves equal.

1. SANGUINALIS.

D. spicis patentibus; spiculis bifloris, una sessili; culmo decumbente, repente. E.	Spikes expanding; spikelets 2 flowered, one sessile; stem decumbent, creeping.

Mich. 1. p. 45.
Panicum sanguinale, Sp. pl. p. 342.
Syntherisma præcox, Walt. p. 76.
Clayton, p. 12.

Root annual. *Stem* 1—3 feet long, decumbent and assurgent, geniculate, taking root readily at the joints; terete, smooth. *Leaves*

4—18 inches long, 3—4 lines wide, hairy, a little scabrous, particularly on the upper surface, the margins sometimes undulate, and with the sheaths tinged with purple; sheaths shorter than the joints, hairy. *Spikes* alternate, opposite and fasciculate; spikelets in two rows. *Rachis* linear, spikelets alternate, affixed to the midrib. *Calyx* glabrous; exterior valve small, interior twice as large. *Corolla*, valves equal to the interior valve of the calyx; all lanceolate. *Filaments* 3. *Anthers* and *Stigmas* pale purple.

Grows every where on lands not inundated. Well known to planters under the name of crab or crop grass. It is the most troublesome grass our planters have to encounter in high ground culture, and though an annual, it is the best grass for hay at present known in our low country.

Flowers through the summer. *Purple Digitaria—Crab Grass.*

2. VILLOSA. Walt?

D. culmo decumbente, dense cæspitoso; foliorum vaginis villosissimis; spiculis trifloris; floribus pedunculatis; calycis valva exteriore minima. E.

Stem decumbent, forming thick tufts; sheaths of the leaves very villous; spikelets 3 flowered; flowers all on footstalks; exterior valve of the calyx very small.

D. serotina, Mich. 1. p. 46.
Syntherisma villosa? Walt. p. 77.

Root perennial, creeping. *Stem* 12—18 inches long, columnar, hairy at the joints, geniculate, decumbent, covering with a thick carpet the ground it occupies. *Leaves* linear-lanceolate, thin, and with the sheaths very villous. *Spikes* 2—3 inches long. *Calyx*, the exterior valve scarcely one fourth the size of the interior, pubescent, hairy along the margin.

Grows generally in close soils.

Flowers July—October. *Procumbent Digitaria.*

3. FILIFORMIS.

D. culmo erecto; foliis subglabris; spiculis erectis, trifloris; floribus pedicellatis; calycis valvis subæqualibus. E.

Stem erect; leaves somewhat glabrous; spikelets erect, 3 flowered; flowers all on footstalks; valves of the calyx nearly equal.

D. pilosa? Mich. 1. p. 45.
Syntherisma serotina? Walt. p. 76.
Panicum filiforme? Sp. pl. 1. p. 343.

Root perennial? *Stem* 1—2 feet high, with the leaves and spikes erect, columnar, glabrous. *Leaves* narrow, lanceolate, serrulate, glabrous on the under surface, a little scabrous and hairy on the upper; sheaths hairy. *Spikes* alternate, 2—8 inches long, filiform, spikelets sometimes 2 flowered, pedicels unequal. *Rachis* a little flexuous. *Calyx* pubescent. *Anthers* purple. *Stigmas* bright purple.

These two last species have been confused in a manner I cannot explain: I have therefore described them from my own observations, and retained the name which appeared most appropriate. I shall only remark that they differ much in habit; the D. filiformis is erect even when detached from other plants, D. villosa creeping and decumbent; the *erect species* has the leaves nearly glabrous, and the valves of the calyx nearly equal; the *decumbent* is distinguished by its villous sheath and unequal calyx.

Grows very common near the ocean, in poor sandy land, whether moist or dry.

Flowers September—October. *Erect Digitaria.*

4. DACTYLON.

D? culmo repente; spicis digitatis, patentibus; floribus solitariis, calycis valvis subæqualibus. E.	Stem creeping; spikes digitate, expanding, flowers solitary; valves of the calyx nearly equal.

Panicum dactylon, Sp. pl. 1. p. 342.
Cynodon dactylon, Pers. 1. p. 85.

Root perennial. *Stem* prostrate, creeping, perennial, terete, glabrous. *Leaves* 2—4 inches long, 2—3 lines wide, expanding, somewhat distichous, finely serrulate, slightly hairy, and scabrous; sheaths longer than the joints, hairy: stipules bearded. *Spikes* generally 4, sometimes 3, terminal, expanding from a common centre, 2 inches long. *Calyx*, valves lanceolate, somewhat carinate, the exterior a little shorter than the interior. *Anthers* light: *Stigmas* dark purple. *Nectaries* 2, obovate, white, half the length of the germ.

We have two varieties of this plant, one coarser (perhaps a species) growing in damp soils, native: the other described above, said to be imported, a tender delicate grass, growing over and binding the most arid and loose lands in our country, and apparently preferred by stock of all descriptions to every other grass. The cultivation of this grass on the poor and extensive sand hills of our middle country would probably convert them into sheep walks of great value: but it grows in every soil, and no grass in close rich land is more formidable to the cultivator: it must therefore be introduced with caution.

Grows common in the low country, particularly in loose soils.

Flowers through the summer. *Bermuda grass.*

The plants comprised in this genus have usually been referred to the Panicum, but the structure of their flowers is exactly similar to the Agrostis, while their habit is distinct from either.

AGROSTIS.

Calyx 2-valvis, uniflorus, corolla paulo minor. *Stigmata* longitudinaliter hispida.	*Calyx* 2 valved, 1 flowered, smaller than the corolla. *Stigmas* longitudinally hispid.
* *Aristatæ*	* *Awned.*

1. ARACHNOIDES. E.

A. panicula elongata, gracili; calycibus corolla vix longioribus; petalo exteriore dorso aristato; arista prælonga, debili. E.	Panicle long, slender; calyx scarcely longer than the corolla; the exterior petal awned on the back; awn very long, weak.

Root fibrous, perennial. *Stem* erect, 4—8 inches high, slender, glabrous. *Leaves* linear, 1—2 inches long, slightly scabrous along the margins; sheath as long as the joints; stipule membranous, lacerate? *Panicle* long for the size of the plant, branches capillary; valves of the calyx equal, lanceolate, acute, the keel serrulate. Exterior *valve* of the *corolla* lanceolate, acute, nearly as long as the calyx, bearing on the back, *above* the middle, an awn 5 or 6 times its own length, and so weak that it resembles the thread of a spider's web; interior valve 0, or merely like a bristle? *Filament* one? very short. *Anthers* purple. *Styles* very short. *Stigmas* feathered, white.

From specimens collected near Orangeburgh, by Mr. I. S. Bennett.

Flowers April—May. *Weak-awned Agrostis.*

I could discover but one stamen in each flower. This species appears to connect very closely the Agrostis and Trichodium.

2. TENUIFLORA.

A. paniculæ simplicissimæ, ramis appressis; corollis aristatis; aristis flore longioribus. Sp. pl. 1. p. 364.	Panicle very simple, with the branches appressed; corolla awned; awns longer than the flowers.

Root perennial. *Stem* decumbent, branched, terete, slender, glabrous, leafy. *Leaves* 2—3 inches long, 1—2 lines wide, flat, scabrous; sheaths longer than the joint; stipules membranous, lacerate. *Calyx* 2 valved, valves unequal, acuminate, compressed, keels scabrous, shorter than the corolla. *Awn* of the *corolla* twice or three times as long as the valve.

From specimens brought to me from Greenville, S. C. by Mr. Moulins.

Flowers August—September?

3. SERICEA.

A. panicula laxa, diffusa, capillacea; calycibus corolla multo brevioribus, aristatis; corollæ valva exteriore aristata, demum bipartita. E.

Panicle lax, diffuse, capillary; calyx much shorter than the corolla, awned; exterior valve of the corolla awned, by age two parted.

Stipa sericea. Mich. 1. p. 54.
Stipa diffusa? Walt. p. 78.

Root perennial, forming very large tufts. *Stem* erect, 2—3 feet high, slender, columnar. *Leaves* 1—2 feet long, subulate, involute, glabrous, glaucous on the the inner surface; sheaths glabrous; stipules membranous. *Panicle* long, expanding. *Peduncles* 1—3 inches long, capillary, purple. *Calyx* much shorter than the corolla; valves unequal, awned, sometimes ciliate, purple. *Corolla* 2 valved; the exterior lanceolate, concave, glabrous, when old 3 awned; the lateral awns as long as the valve; the intermediate 3 times as long, all straight and closely appressed; the interior valve a little smaller, concave, acute, sometimes incised, both purple. *Anthers* feathered. *Stigmas* bright purple.

The structure of the corolla in this flower is somewhat remarkable. When young, the exterior valve is entire and simply awned, by age it extends and at the same time splits, so that it ultimately resembles an Aristida, with straight appressed awns. From its 2 valved corolla, its habit, and striking affinity to the next species, I have placed it in this genus.

This, though a coarse and useless grass, is a very beautiful one. Upon the sea islands it occupies the ground for many acres, and with its bright purple flowers, and slender, glossy peduncles, it appears when agitated by the wind, to cover the earth with a silken carpet.

Grows abundantly among the sand ridges near the ocean. Near Columbia. Mr. Herbemont.

Flowers September—October. *Silky Agrostis.*

4. TRICHOPODES. E.

A. panicula longa, diffusa, capillacea; corollæ valvis æqualibus, exteriore

Panicle long, diffuse, capillary; valves of the corolla equal, the exteri-

brevi-aristata; foliis linearibus, planis. E.	or with a short awn; leaves linear, flat.

Perennial? *Stem* 2—3 feet high, glabrous, columnar. *Leaves* 8—12 inches long, scarcely 1 line wide, flat, scabrous; sheath glabrous; stipules long, membranous. *Panicle* nearly a foot long, diffused. *Peduncles* long, capillary, *Valves* of the *calyx* a little unequal, half as long as the corolla, membranous. *Exterior valve* of the *corolla* terminated by a short, straight awn; the interior sometimes ½ line longer than the exterior, excluding the awn.

A coarse rush-like grass, growing in sandy woods and pastures, forming detached tufts. If the flower had permitted, I should have refered the A. juncea of Michaux to this species.

Found in Chatham county, Georgia, by Dr. Baldwin. Near Charleston. I believe it is very common in poor, dry soils.

Flowers September—October. *Hair-panicled Agrostis.*

** *Muticæ.*	** *Without awns.*

5. Decumbens. Muhl. Cat.

A. culmo decumbente; panicula pyramidata; ramulis horizontaliter patentibus, confertifloris, semiverticillatis; corolla calyce dimidio breviore. E.	Stem decumbent; panicle pyramidal; branches semiverticillate, horizontally expanding; flowers crowded; corolla half the length of the calyx.

Root perennial. *Stem* 1—2 feet high, geniculate, taking root at the joints, branching, terete, glabrous. *Leaves* 3—4 inches long, 4 lines wide, flat, a little scabrous, slightly glaucous; stipules ovate, membranous, several branches grow from each joint or bud of the panicle, giving it a verticillate appearance. *Calyx*, valves acute, concave, not keeled; the exterior a little larger. *Corolla*, about half as long as the calyx; valves lanceolate, acute; the exterior somewhat larger. *Filaments* 3. *Anthers* and *Stigmas* white.

Grows around Charleston; rare, perhaps imported. I should have referred it to A. dispar, Mich. but its size, and the almost equal valves of the corolla forbade.

Flowers May—June. *Decumbent Agrostis.*

6. Dispar. Mich.

A. erecta, majuscula; panicula laxa, subverticillatim pyramidata, multiflora; glumæ muticæ val-	Erect, large; panicle loose, somewhat verticillate and pyramidal, many flowered; of the unawn-

vis exterioribus multo majoribus; interiorum altera minima. Mich. 1. p. 52.

ed glumes the exterior valve much the largest; one of the interior very small.

With this species I am unacquainted.
Grows in the low country of Carolina. Mich.
Flowers

7. ALBA.

A. panicula laxa; calycibus muticis, æqualibus; culmo repente. Sp. pl. 1. p. 371.

Panicle loose; calyx unawned, equal; stem creeping.

Root creeping, perennial. *Stem* geniculate and assurgent, 1—2 feet high, terete, glabrous. *Leaves* 2—5 inches long, 1—3 lines wide, a little scabrous: sheaths shorter than the joints; stipules ovate, membranous. *Panicle* expanding; branches solitary, by pairs, and verticillate; flowers somewhat crowded near their summits. *Calyx*, valves nearly equal; the exterior rather longer, acute, compressed, scabrous, the keel ciliate, when flowering expanded. *Corolla*, the exterior valve lanceolate, concave, shorter than the calyx; the interior much smaller, flat, lanceolate. *Anthers* yellowish. *Stigmas* white.

Grows in damp soils. If originally imported, now much diffused.
Flowers May—August. *White-flowered Agrostis.*

8. JUNCEA? Mich.

A. foliis linearibus, convolutis; panicula oblonga, pyramidata; ramis verticillatis. E.

Leaves linear, convolute; panicle oblong, pyramidal; branches verticillate.

A. juncea, Mich. 1. p. 51.

Root perennial. *Stem* 1—2 feet high, erect, slender, columnar, glabrous. *Leaves* 2—6 inches long, 1 line wide, glabrous, concave, convolute when dry, a little glaucous on the upper surface, margins roughened: sheaths much shorter than the joints; stipules, a membranous margin. *Panicle* verticillate; branches in each whorl about 6. *Calyx* purple; valve lanceolate, acute, glabrous: the exterior only half as long as the interior. *Corolla*, valves nearly equal, and as long as the interior valve of the calyx. *Anthers* and *Stigmas* nearly white. *Nectaries* 2, obovate.

The leaves of this plant, and its size, which is uniform, scarcely accord with Michaux's description of the A. juncea; but the flowers agree so exactly that I have adopted his name. I would have preferred *verticillata*, as its branches are more regularly verticillate than in any other grass with which I am acquainted.

Grows in dry, sandy, pine barrens. Common.

Flowers May—August. *Rush-like Agrostis.*

9. CLANDESTINA. Muhl. Cat.

A. culmo erecto; paniculis appressis, terminalibus axillaribusque; corolla pilosa. E.	Stem erect; panicles appressed, terminal and axillary; corolla hairy.

Root perennial? *Stem* 3—4 feet high, terete, glabrous. *Leaves* about 1 foot long, 2—3 lines wide, scabrous on the upper surface, glabrous on the under, the margins sharply serrulate; sheaths shorter than the joints, hairy at the throat. The *lateral panicles* scarcely extend out of their sheaths. *Calyx*, valves acute, entire, glabrous, somewhat keeled, the keels finely serrulate; exterior valve not half the length of the corolla; interior a little longer than the exterior. *Corolla*, exterior valve acute, keeled, the keel serrulate; the interior valve much longer, convolute, the point elongate and scabrous; both hairy. *Anthers* and *Stigmas* white.

Grows in dry, sandy soils. Common about Beaufort.

Flowers September—October. *Secret-flowering Agrostis.*

10. INDICA.

A. panicula contracta, mutica; racemis lateralibus, erectis, alternis. Sp. pl. 1. p. 375.	Panicle contracted, unawned; racemes lateral, erect, alternate.

Walt. p. 77.
Mich. 1. p. 52.

Root perennial. *Stem* 2—3 feet high, erect, terete, glabrous. *Leaves* 12—18 inches long, 1—2 lines wide, attenuated to a thread, erect, very glabrous, with the margins finely serrulate, when dry involute; sheaths shorter than the joints, glabrous. *Racemes* alternate, and aggregate. *Calyx* 2 valved; valves unequal, the exterior larger; both lanceolate, acute. *Corolla*, valves twice as long as the calyx; the exterior valve acute; the interior rather shorter, emarginate. *Anthers* purple. *Stigmas* white.

Grows in pastures and about buildings. Is supposed to mark rich soils. A fine pasture grass; too slender for the scythe.

Flowers July—November. *Indian Agrostis.*
Black-seed grass.

11. VIRGINICA.

A. panicula contracta, mutica; foliis involuto-subulatis, rigidis, exstantibus. Sp. pl. 1. p. 373.	Panicle contracted, unawned; leaves subulate, involute, rigid, expanding.

Walt. p. 77.

Root creeping, jointed, perennial. *Stem* 6—8 inches high, assurgent, terete, glabrous; the lower joints very short. *Leaves* somewhat distichous, about 2 inches long, very entire, glabrous on the under surface, a little scabrous on the upper, and somewhat glaucous; sheaths longer than the joints, ciliate at the throat. *Panicle* compound, appressed, resembling a spike. *Calyx*, the exterior valve half the length of the corolla, acute, compressed, keeled: the interior similar, and a little larger than the corolla. *Corolla*, valves nearly equal, compressed, but not keeled; the exterior acute, somewhat mucronate; the interior obtuse. *Anthers* and *Stigmas* white. *Styles* short.

Grows on the sands inundated by salt water.

Flowers August—September. *Virginian Agrostis.*

STIPA.

Calyx 2-valvis, uniflorus. *Corolla* brevior, 2-valvis. *Arista* terminalis, basi contorta, decidua, longissima.	*Calyx* 2 valved, one flowered. *Corolla* shorter, 2 valved. *Awn* terminal, contorted at base, deciduous, very long.

1. AVENACEA.

S. aristis nudis; calycibus semen æquantibus. Sp. pl. 1. p. 445.	Awns naked; calyx as long as the seed.

Walt. p. 77.
Clayt. p. 15, No. 621.
Stipa barbata, Mich. 1. p. 53.

Root perennial. *Stem* 2—3 feet high, erect, terete, glabrous. *Leaves*, the lower ones 4—6 inches long, the upper 1—2, scarcely one line wide, glabrous underneath, scabrous on the upper surface; nerves pellucid; sheaths shorter than the joints; stipules membranous, emarginate. *Panicle* diffuse, few flowered; branches 5—7 inches long, 2—3 from each bud. *Peduncles* 1—3 inches long. Valves of the *calyx* nearly equal, membranous, concave, acuminate, glabrous, without nerves, but faintly marked with the midrib, the point sometimes extended to an awn. *Corolla* stipitate, the stipe cloathed with a short thick, rufous beard; valves equal, rigid, rufous, a little shorter than the calyx; the exterior concave, obscurely 3 nerved, terminating in a long, spirally contorted awn, scabrous and bearded with short hairs at the base; the interior abruptly acuminate, terminating in a short awn. *Filaments* 3, short. *Anthers* yellow. *Styles* short. *Stigmas* plumose, white. *Nectaries* lanceolate, acute, as long as the styles. *Seed* cylindrical.

Grows in rich, shaded high lands; flourishing through the winter.

Flowers March—May.

Notwithstanding the awn in this plant is slightly bearded at base, and the calyx is rather longer than the corolla, I still believe it to be the original species of Clayton.

2. **Stricta.** La Marck.

S panicula elongata, angustata; pedunculis articulatis, strictissimis; aristis nudis, subflexuosis. La M.	Panicle long, narrow; peduncles jointed, very straight; awns naked, somewhat flexuous.

Enc. Met. 1. p. 153.

This plant has the aspect of an Andropogon. La Mark.

Collected in Carolina, by Mr. Fraser.

3. **Capillaris.** La Marck.

S. panicula capillacea, effusa; calyce corolla triplo breviore; aristis nudis. La M.	Panicle capillary, spreading; corolla three times as long as the calyx; awns naked.

Collected in Carolina, by Mr. Fraser.

Of these two species, inserted from La Marck, I have no correct knowledge. The last seems to resemble the S. sericea of Mich. (Agrostis sericea of this work). I have seen in this country no grass that appears to be a real congener of the S. avenacea.

ARISTIDA.

Calyx bivalvis. *Corolla* 2-valvis; valva interiore minima, exteriore aristis tribus terminalibus.	*Calyx* 2 valved. *Corolla* two valved; the interior valve very small, the exterior with 3 terminal awns.

1. SPICIFORMIS. E.

A. floribus confertis, subspicatis: arista intermedia basi villosa.	Flowers crowded, somewhat spiked: the middle awn villous at base.

Root perennial. *Stem* 1—3 feet high, simple, slightly compressed. *Leaves* linear, glabrous, the upper surface and margins scabrous; sheaths shorter than the joints, with the throat glabrous. *Flowers* in compound racemes, so much appressed as to resemble a cylindrical spike. *Calyx* much shorter than the corolla, slightly compressed, both valves terminating in awns. *Corolla*, exterior valve involute, terminating in 3 awns, about as long as the valve; the intermediate awn longest, and slightly villous at base; inner valve? very short, membranous. *Filaments* short. *Anthers* purple. *Styles* short. *Stigmas* plumose, purple.

Grows in wet pine barrens.

Flowers September—October. *Spike-flowered Aristida.*

All the species of this genus grow in poor, sandy soils, and form tufts of dry, coarse grass.

2. DICHOTOMA. Mich.

A. culmis setaceis, erectis, subdichotomis; calycis valvis corolla longioribus; aristis lateralibus, brevissimis, intermedia longiore, contorta. E.	Stem setaceous, erect, somewhat dichotomous; calyx longer than the corolla; the lateral awns very short, the intermediate longer, contorted.

Mich. 1. p. .

Root perennial, cespitose. *Stem* 8—12 inches high, very slender, rigid, columnar, glabrous, branching. *Leaves* 2—4 inches long, scarcely exceeding 1 line in breadth, flat, finely serrulate; sheaths much shorter than the joints: stipules short, membranous. *Flowers* in racemes, generally simple: a raceme is frequently produced at every joint. Valves of the *calyx* longer than the corolla, narrow, lanceolate, terminating in short awns, particularly the inner valve; keel serrulate. *Corolla* involute, terminating in 3 awns: the 2 lateral ones short, straight: the intermediate larger, longer, but not as long as the corolla, contorted and bent horizontally.

This plant is not properly dichotomous; it merely produces a short branch at every joint.

Grows in the upper districts of South-Carolina.

Flowers *Branching Aristida.*

3. GRACILIS. E.

A. culmo gracili; floribus spicatis; spiculis paucifloris, subremotis, appressis: aristis lateralibus brevibus, erectis, intermedia longiore, patente. E.	Stem very slender; flowers in spikes: spikelets few flowered, somewhat remote, appressed; the lateral awns short, erect, the intermediate longer, expanding.

Perennial? *Stem* about a foot high, very slender, branching near the base, and with the whole plant glabrous. *Leaves* linear, flat, 1—4 or 5 inches long, scarcely a line wide, a little scabrous; sheaths shorter than the joints. *Flowers* in a long spike; spikelets 2—5 flowered, closely appressed, not crowded on the spike. Valves of the *calyx* very acute, a little unequal, about as long as the corolla. Exterior valve of the *corolla* involute, tranversely banded, terminating in 3 awns; the two lateral erect, straight, shorter than the valve; the intermediate longer than the corolla, bent almost horizontally, but not contorted, hairy at the base; interior valve wanting, or very minute; keel of the calyx and corolla, and the awn very scabrous. *Stamens* 3. *Anthers* purple. *Stigmas* white. *Styles* very short.

The corolla in the plants I have seen, is so curiously banded with light and dark grey spots not unlike the body and legs of a musquito, that if I had supposed them invariable, I should have called the species *fasciata*. From the preceding species, it differs by a longer corolla and awns, and the intermediate awn not contorted; from the succeeding, by a much more slender habit, and smaller flowers, and in the awns, which in the A. stricta, are all longer than the corolla, and expanding.

Grows in the vicinity of Charleston. Common.

Flowers September—October. *Slender Aristida.*

4. STRICTA. Mich.

A. panicula erecta, appressa; floribus racemosis: aristis patentibus, corolla duplo longioribus. E.	Panicle erect, appressed; flowers in racemes; awns expanding, twice as long as the corolla.

Mich. 1. p. .
A. adscensionis, Walt. p. 74.

Root perennial, cespitose. *Stem* 2—3 feet high, compressed, glabrous, branching at base, the lower joints very short. *Leaves* nearly a foot long, 1—2 lines wide, glabrous, with the margins finely serrulate; sheaths longer than the joints; throat slightly contracted and ciliate, with short hairs. *Panicle* long, flowers not crowded on the branches. *Peduncles* 1—3 lines long, scabrous. One valve of the *calyx* longer, the other shorter than the corolla; both narrow very acute, keeled; the keels finely serrulate. Exterior valve of the *corolla* involute, hairy at the base. *Awns* scabrous; the intermediate one the longest, but all twice as long as the corolla: the two lateral ones nearly divaricate. *Anthers* dark purple. *Stigmas* plumose, white. *Seed* oblong.

Grows in poor, sandy soils Very common.

Flowers September—October. *Long-awned Aristida.*

5. LANOSA. Muhl. Cat.

A. panicula erecta, appressa; floribus racemosis; calyce corolla longiore; vaginis foliorum lanatis. E.	Panicle erect, appressed; flowers in racemes; calyx longer than the corolla; sheaths of the leaves woolly.

Root perennial, cespitose. *Stem* 2—4 feet high, terete, hairy near the base, glabrous towards the summit. *Leaves* about a foot long, 2—3 lines wide, nearly glabrous underneath, the upper surface hairy, and with the margins scabrous; sheaths longer than the joints, covered with a tomentum that appears parasitical. *Branches* of the *panicle* woolly at base. Valves of the *calyx* very acute, glabrous, compressed, keel finely serrulate; the exterior valve much longer than the corolla; the interior generally longer, sometimes of the same length. *Corolla* * 2 ? valved; exterior valve involute, a little hairy at base: awns expanding, as long as the corolla, the intermediate somewhat the longest; interior valve very small, ovate, flat, greenish *Nectaries* 2, obovate. *Anthers* very long, dark purple. *Stigmas* plumose, dark purple.

In habit very similar to the preceding, from which it differs in size, being every way larger, in the proportionally longer calyx, shorter awns, and the woolly down with which the greater part of the plant is covered.

ANDROPOGON.

Flores polygami, geminati; altero hermaphrodito, sessili; altero masculo s. rarius neutro, pedicillato, mutico. Pers.	*Flowers* polygamous, by pairs; one hermaphrodite, sessile; the other male, or more rarely neutral, on an unawned pedicel.

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* Perhaps all the species of this genus have, if closely examined, a small interior valve as long as the germ, which it assists in covering.

Herm. *Calyx*, gluma, 1-florus. *Corolla* gluma basi vel apice aristata. *Stamina* 3. *Styli* 2. *Semen* 1.	Herm. *Calyx*, *glume* one flowered. *Corolla*, glume awned at base or at the summit. *Stamens* 3 *Styles* 2. *Seed* 1.
Masc. *Cal.* et *Cor.* prioris. *Stamina* 3.	*Masc.* *Calyx* and *corolla* like the former. *Stamens* 3.
* *Species dubiæ, habitu diversæ.*	* *Species doubtful, of distinct habits.*

1. CILIATUS. E.

A. panicula oblonga, terminali; ramulis glabris; floribus geminis; calycibus hirsutis; corolla ciliata, arista contorta.[*] E.	Panicle oblong, terminal; branches glabrous; flowers in pairs; calyx hairy; corolla ciliate, with a contorted awn.

Root perennial. *Stem* erect, sometimes decumbent, 3—4 feet high, terete, glabrous, pubescent at the joints. *Leaves* 1—2 feet long, 5—7 lines wide, scabrous somewhat rigid, a little hairy; sheaths generally longer than the joints, glabrous, contracted, and naked at the throat; stipules membranous, entire, not hairy. *Panicle* naked, somewhat expanding, with several branches from each bud. *Flowers* hermaphrodite and neuter; to the terminal flower are generally attached two neutral florets. *Pedicels* hairy. *Calyx*, the exterior valve lanceolate, nearly flat, 9—11 nerved; the interior a little triquetrous, equal, 5 nerved; both hairy, fringed and minutely bifid at the summit. *Corolla*, valves unequal, smaller than the calyx, ciliate; the exterior larger, lanceolate, flat, with the margins inflexed; the interior concave, terminating in a twisted awn twice as long as the calyx. *Filaments* shorter than the calyx. *Anthers* yellow. *Styles* scarcely as long as the stamens. *Stigmas* feathered, yellowish. *Seed* oblong.

Found in the dry pine barrens on Port Royal.

Flowers September. *Fringed Andropogon.*

2. NUTANS.

A. panicula ramosa, nutante; floribus geminatis, aristatis; calycibus hirsu-	Panicle branching, nodding; flowers by pairs, awned, with the calyx

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[*] I regret that I did not arrange the Erianthus immediately before this genus. The number of Stamens is too variable among the Andropogons to form a generic character, and this species too nearly allied to the E. contortus to be separated from it; yet while it has the awn and habit of the Erianthus, it is distinguished by its neutral florets, and the want of a hairy involucrum.

tis; hermaphrodito sessili, masculo pedicellato, caduco. Sp. pl. 4. p. 906.	hairy; the hermaphrodite sessile, the male on a pedicel, caducous.

A. avenaceum? Mich. 1. p. 53.
Stipa villosa? Walt. p. 78.

Root perennial. *Stem* erect, 3—6 feet high, terete, glabrous, with the lower joints thickened, and sometimes producing roots. *Leaves* 1—2 feet long, 3—4 lines wide, scabrous: sheaths longer than the lower joints, contracted at the throat: stipules membranous. *Panicle* compound, loose, nodding. *Flowers* on short peduncles, with two neutral florets to each fertile one: pedicels of the neutral florets as long as the calyx of the fertile, thickened at the summit, very hairy. *Calyx*, valves equal, of a dark brown colour, shining, yet hairy, obtuse, and fringed at the summit. *Corolla* membranaceous, much shorter than the calyx, hairy, slightly two cleft; the inner valve the smallest, with an awn six times as long as the calyx, much contorted. *Anthers* yellow. *Styles* short. *Stigmas* pale purple.

In this and the preceding species, the anther appears to open at or near the summit, and not along its whole length as usual in the grasses.

This plant, by its loose, diffused, nodding panicle, differs widely from every other species of this genus, with which I am acquainted, in the United States.

Grows in arid soils. Very common.
Flowers September—October. *Nodding Andropogon.*

3. AMBIGUUS. Mich.

A. spicis paniculatis: floribus solitariis, remotis; corollæ valva exteriore apice, interiore basi aristata.	Spikes panicled; flowers solitary, remote; the exterior valve of the corolla awned at its summit, the interior at its base.

Mich. 1. p. 58.

Perennial? *Stem* erect, and decumbent, 8—20 inches high, terete, glabrous, with short joints. *Leaves* distichous, expanding, cordate-lanceolate, glabrous, acute, concave, 2—3 inches long, 5—6 lines wide: sheaths longer than the joints, contracted and hairy at the throat. *Panicle* terminal, expanding. *Flowers* nearly sessile. *Calyx* 2 valved, vales linear, nearly subulate, back scabrous: the exterior valve the longest. *Corolla* 2 valved, shorter than the calyx, equal: the exterior valve lanceolate, 3 nerved, terminated by a straight awn 3 times its own length; the interior two cleft at the summit, with the back impressed by a scabrous awn, longer than the calyx, contorted in the middle, hairy near the bottom. *Filaments* 3, longer than the corolla. *Styles* short. *Stigmas* feathered, purple.

This plant will not remain among the Andropogons when the genus is accurately defined. Besides its other peculiarities it has no vestige of a neutral floret. I once intended to insert it as a distinct genus under the name of Alloiatheros, from the dissimilarity of its awns not only in position, but in figure. But I have permitted it to remain, as my knowledge of the genus is not sufficiently extensive to divide it with accuracy, or even satisfaction to myself.

Grows in dry soils, particularly pine barrens.

Flowers September. *Ambiguous Andropogon.*

4. MELANOCARPUS.

A. spicis fasciculatis; floribus solitariis involucratis; arista longissima. E.

Spikes clustered; flowers solitary, with an involucrum; awn very long.

Stipa melanocarpa, Muhl. Cat.

Root perennial? *Stem* 2—3 feet high, erect columnar, glabrous, branching. *Leaves* 4—12 inches long, 2—4 lines wide, scabrous, strongly marked with the midrib; sheaths longer than the joints, contracted and a little hairy at the throat; stipules membranous, lacerate. *Flowers* in simple spikes, lateral and terminal, apparently fasciculate, but probably alternate, on small branches *Peduncles* 1—3 inches long, glabrous. *Spikes* many flowered; the lowest involucrum, longer than the spike, leaf-like, terminating in a long awn; florets on short pedicels, an involucrum attached to each pedicel, leaf-like, 3—4 times longer than the floret, the upper one diminishing in size. *Calyx* two leaved, lanceolate, rather obtuse, cartilaginous, thickly cloathed, as well as the stipes, with a short down, rufous at first, but ultimately of a very dark purple. *Corolla* very small, membranous; from the base of one of its valves proceeds an awn twenty times as long as the calyx, contracted, spiral and hairy.

My specimens were too imperfect to enable me to examine accurately the corolla, stamens or styles.

From specimens collected by R. Habersham, Esq. in the pine barrens between Fort Barrington on the Alatamaha, and Jefferson on the Satilla, Georgia.

Flowers September—October.

*** Species habitu conformes.*

*** Species agreeing in habit.*

5. SCOPARIUS. Mich.

A. spicis simplicibus, pedunculatis, geminatis, stricte paniculatis; floribus geminis, hermaphrodito sessili, lanceolato, ar-

Spikes simple, on peduncles, by pairs, forming straight panicles; flowers by pairs, the hermaphrodite sessile, lanceolate,

istato ; neutro pedicillato aristato ; rachi ciliata. Willd.	awned ; the neuter on a footstalk, awned ; the rachis ciliate.

Mich. 1. p. 57.
A. purpurascens. Sp. pl. 4. p 913.

Root perennial. *Stem* herbaceous, 3 feet high, very glabrous, slightly compressed, furrowed on one side, tinged with purple. *Leaves* linear, one foot long, a little hairy and scabrous, channelled ; sheaths hairy, compressed, contracted at the throat ; stipules membranous, ciliate. *Flowers* in long, slender panicles, lateral and terminal. *Spikes* solitary, on peduncles 4 inches long ; sometimes 2 or 3 spikes appear to proceed out of one sheath, but they are really branches each bearing its spike with its appertaining sheath ; Sheaths convolute, as long as the naked peduncle, scabrous, acute, and mucronate at the summit. *Pedicel* of the neutral floret as long as the calyx of the fertile, hairy on two sides, terminated by a solitay awned valve. *Calyx* of the *herm. flower* two valved ; the exterior concave, 5 nerved, scabrous, frequently two cleft ; the interior keeled, acute, the keel serrulate, the margins hairy. *Corolla* 2 valved, shorter than the calyx, purple ; the exterior concave, acute, with the margins hairy ; the interior hairy, two cleft at the summit, awned near the summit with a scabrous awn three times its own length. *Filaments* 3, very short. *Styles* short. *Stigmas* feathered, purple. *Seed* oblong, oval.

The species in this section, excepting perhaps the last, form an extremely natural family. So much so, that it becomes difficult to discriminate the species. They cover poor pasture in the winter with their coarse, dry, foliage, and are known by the common name of *broom grass.*

Grows in dry, poor soils. Very common.
Flowers September—October. *Purple Andropogon.*

6. Ternarius. Mich.

A. ramis remote alternis, tristachyis ; spicis conjugatis ; villis involucri gluma brevioribus ; floribus triandris. Mich. 1. p. 57.	Branches remotely alternate, three spiked ; spikes conjugate ; hair of the involucrum shorter than the glume ; flowers triandrous

Branches solitary, simple ; the lower ones sometimes four spiked ; valve of the corolla villous ; the interior two cleft, producing from the incisure a long contorted awn. Mich.

Grows in the mountains of Carolina. Mich.

Three-spiked Andropogon.

7. ARGENTEUS. E.

A. panicula longa, gracili; ramulis solitariis geminatisque; spicis conjugatis, vagina longioribus, villis sericeis albis vestitis. E.	Panicle long, slender; branches solitary and by pairs; spikes conjugate, longer than the sheath, cloathed with white silvery hairs.

Mich. 1. p. .

Perennial. *Stem* 3 feet high, branching from the base, very glabrous, tinged with purple. *Leaves* linear, about a foot long, scabrous, particularly on the upper surface; sheaths longer than the joints, spotted when young, with red. *Flowers* in a long panicle, the whole plant producing flowers in fact from every upper joint, as all the species do in this section. *Peduncles* generally 2 from each joint, both long, but of unequal length, terminated by two conjugate spikes; sheaths of the flowers scarcely longer than the peduncle. *Pedicels* of the neutral floret, one, at the base of the hermaphrodite flower, very hairy, with a small valve at the summit, pedicel and hair longer than the fertile flower. *Calyx* and *Corolla* hairy along the margins. *Stamens* 3. *Styles* 2. *Stigmas* purple.

Grows in dry soils.
Flowers October. *White-spiked Andropogon.*

8. VAGINATUS. E.

A. panicula gracili, subappressa; spicis solitariis, conjugatis, vagina brevioribus; floribus geminis; hermaphrodito aristato; arista recta, scabra. E.	Panicle slender, appressed; spikes solitary, conjugate, shorter than the sheaths; flowers by pairs; the hermaphrodite awned; the awn straight, scabrous.

Perennial. *Stem* erect, 3 feet high, terete, glabrous. *Leaves* long, linear, scabrous on the upper surface; sheaths glabrous. *Panicle* commencing at the middle of the stem; branches divided, but with a sheath at each spike. *Spikes* short, conjugate, the rachis very slender, hairy. *Pedicel* of the neutral floret longer than the hermaphrodite, very hairy. Valves of the *calyx* sharply serrulate at the margins and keel. *Awn* straight, scabrous, three times as long as the calyx. *Stamen* 1 ?

This species is remarkable, even during the winter, for its large sheaths, which generally expand after the flowers are mature. This is sometimes considered as the A. virginicus, but the expression "floribus muticis," is by no means applicable to this plant.

Grows in damp soils.

Flowers October. *Large-sheathed Andropogon.*

9. DISSITIFLORUS. Mich.

A. panicula gracili, subappressa; spicis solitariis, conjugatis, vaginas æquantibus; floribus geminis; hermaphrodito aristato; arista recta, scabra, caduca. E.	Panicle slender, appressed; spikes solitary, conjugate, as long as the sheaths; flowers by pairs; the hermaphrodite awned; with the awn straight, scabrous, caducous.

Mich. 1. p.
A. virginicus? Sp. pl. 4. p. 916.
Cinna lateralis, Walt. p.

Perennial. *Stem* erect, 3 feet high, branching, with the branches appressed. *Leaves* long, linear, scabrous; sheaths contracted and hairy at the throat, with a few long hairs scattered along the margins. Branches of the *panicle* long, slender, appressed. *Spikes* conjugate, as long as the sheaths, slender, hairy. *Awn* 3 or 4 times as long as the calyx, straight. *Stamen* 1.

I know not whether this can be the A. virginicus of Linnæus; it is awned, but the awns drop with the slightest touch. It is also not certain whether this or the preceding species is the A. dissitiflorus of Michaux; his description applies almost equally well to both. I have therefore retained his name to this plant, as the sheath of the former supplied both a name and character.

Grows in close soils. The most common of all the species.

Flowers October. *Slender-spiked Andropogon.*
Common Broom-Grass.

10. MACROUROS. Mich.

A. panicula glomerata; spicis conjugatis, fasciculatis, floribus geminatis; vaginis foliorum scabris, marginibus pilosis. E.	Panicle clustered; spikes conjugate, clustered, the flowers in pairs; sheaths of the leaves scabrous, the margins hairy.

Mich. 1. p. 57. Sp. pl. 4. p. 914.
Cinna glomerata, Walt. p. 59.

Perennial. *Stem* erect, 3 feet high, slightly compressed. *Leaves* long, linear, slightly scabrous; sheaths generally more scabrous than the leaves, varying however in their roughness; villous along the margins. *Flowers* in clustered panicles, terminal and lateral, but generally near the summit of the stem. *Spikes* 3—5 or more, from each joint, every spike however provided with a linear sheath about its own length. *Peduncles* hairy below the sheath. *Pedicel* of the neutral floret longer than the hermaphrodite, hairy. *Awn* straight, 3 or 4 times as long as the calyx. *Stamen* 1. *Anther* and *Stigmas* yellow.

Varies, (Glaucopsis), with leaves very glabrous, glaucous, and the peduncles less clustered. Perhaps a distinct species.

Grows in damp soils.
Flowers October. *Cluster-flowered Andropogon.*

11. Tetrastachyus. E.

A. panicula gracili, erecta; spicis solitariis, quadrifidis; floribus geminatis, hermaprodito aristato; foliis pilosis. E.

Panicle slender, erect; spikes solitary, 4 cleft; flowers by pairs, the hermaphrodite awned; leaves hairy.

Stem erect; 2—3 feet high, glabrous, nearly terete. *Leaves* long, linear, channelled, hairy on the inner surface; sheaths as long as the joints, very hairy; stipule a bearded membrane. *Panicle* slender appressed; branches and spikes alternate, somewhat remote. Sheaths of the spikes glabrous, as long as the spikes themselves. Spikes generally 4, as if twice divided, rarely 2. Valves of the *calyx* serrulate along the margins, surrounded at base with a short hairy involucrum. *Awn* straight, scabrous. *Stamen* one.

Grows in damp pine barrens, near Charleston.
Flowers October. *Four-spiked Andropogon.*

12. Furcatus. Muhl.

A. spicis digitatis, subquaternis, terminalibus; floribus geminatis, hermaphrodito sessili, aristato, masculo mutico, pedicillato; rachi pilosa. Sp. pl. 4. p. 919.

Spikes digitate, generally by fours, terminal; flowers in pairs, the hermaphrodite sessile, awned, the male unawned, pedicelled; rachis hairy.

Perennial. *Stem* 2—3 feet high, glabrous. *Leaves* linear, the upper ones short, somewhat glabrous; sheaths glabrous. *Spikes* terminal, 3 or 4, 3—4 inches long. *Valves* of the hermaphrodite flower sharply serrulate along the angles, equal. *Corolla* smaller. *Awn* slightly contorted, about 3 times as long as the calyx. *Pedicel* of the male floret as long as the hermaphrodite flower, ciliate. Valves of the *calyx* unequal; the exterior longest, mucronate: both sharply serrulate along the margins. *Corolla* shorter than the calyx, unawned.

Grows in the mountains of Carolina. Dr Macbride.

Flowers October. *Digitate Andropogon.*

AIRA.

Calyx 2-valvis, 2-florus. *Flosculi* absque ininterjecto rudimento.	*Calyx* 2 valved. 2 flowered. *Florets* without an interposed rudiment.
* *Aristatæ.*	* *Awned.*

1. **Pallens.** Var. aristata. Muhl. Cat.

A. foliis planis; panicula laxa; subverticillata; calycibus 2-valvibus, 3-floris; flore inferiore mutico, superioribus arista brevi contorta. E.	Leaves flat; panicle diffuse, somewhat verticillate; calyx 2 or 3 flowered; the lower flower unawned; the upper with a short twisted awn.

Avena Palustris. Mich. 1. p. 72.
A. Caroliniana? Walt. p. 81.

Root perennial. *Stem* 1—2 feet high, erect, slightly geniculate at base, terete, glabrous, *Leaves* narrow, a little scabrous finely serrulate: sheaths open, glabrous, shorter than the joints; stipules short, lacerate. *Calyx* 2 valved, valves compressed, keeled, very acute, keels serrulate, the interior valve a little longer. *Corolla* 2 valved; the exterior valve similar to the calyx; the interior only half as long, obtuse, with the back impressed; to the back of the exterior valve of the upper flowers, is attached a short contorted awn. *Anthers* yellowish. *Stigmas* white.

The structure of the flower of this plant appears evidently that of an Aira; its awn has caused it to be referred to Avena.

Grows in rich wet soils—in river swamps common.

Flowers March—April.

2. **Flexuosa.**

A. panicula patente, trichotoma; pedunculis flexuosis; aristis geniculatis; foliis setaceis; culmo subnudo. Sp. pl. 1. p. 378.	Panicle expanding, trichotomous; peduncles flexuous; awns geniculate; leaves setaceous; stem nearly naked.

Pursh. Flor. Amer. Sept. 1. p. 77.

Stem 2 feet high, terete, glabrous, naked near the summit. *Leaves* setaceous. *Panicle* diffused; the primary divisions somewhat verticillate, the second generally trichotomous. Valves of the *calyx* membranaceous, very acute, unequal; the interior as long as the florets; florets equal in length. Valves of the *corolla* equal; the exterior valve very acute, hairy at base, with a geniculate awn extending from the base nearly twice its own length; interior valve slightly two cleft.

I insert this species on the authority of Pursh. My specimens are from Pennsylvania.

Flowers *Flexuous Aira.*

3. **Purpurea.** Walt.

A. foliis subulatis; panicula parva, racemosa; corolla villosa, valva exteriore bifida, aristata. E.	Leaves subulate, panicle small, racemose; corolla villous, the exterior valve two cleft, awned.

Walt. p. 78.

Root annual? *Stem* 2 feet high, slender, compressed on one side, a little rough on the joints. *Leaves* 6—12 inches long, 2—3 lines wide, scabrous, hairy on the upper surface, convolute when dry; sheaths shorter than the joints, scabrous; throat hairy. *Panicle* composed of small racemes, appressed when young afterwards expanding. *Calyx* 2 valved, 2 flowered, the exterior valve small, the interior larger; both lanceolate, concave, purple, with the margins lacerate. *Corolla* 2 valved; the exterior valve twice or three times as long as the calyx, nearly lanceolate, deeply two cleft, the midrib extended and forming a short awn, ciliate and villous along the back; the interior a little shorter, concave, lanceolate, acute, very villous on the back; both purple. *Anthers* and *stigmas* purple.

This plant has a strong saline taste.

Grows on the margin of the Ocean among the drift sands.

Flowers September—October.

** *Muticæ.*	** *Unawned.*

4. **Capillacea.** La Marck.

A. panicula capillacea, effusa, maxima, flosculis muticis, calyce longioribus; altero pedicellato. La Marck.	Panicle capillary, diffuse, very large; florets unawned, longer than the calyx, one on a footstalk.

Stem about 8 inches high, erect. *Leaves* narrow, short, glabrous. *Glumes* acute, with the keel rough. *Panicle* purple. Pursh.

Collected in Carolina, by Mr. Fraser.

Grows on slate hills and sandy pastures. Pursh.

5. TRIFLORA. E.

A. panicula gracili. erecta; calycibus acutis; spiculis superioribus trifloris; foliis brevibus, planis. E.	Panicle slender. erect; valves of the calyx acute; the upper spikes 3-flowered; leaves short, flat.

Root fibrous, perennial. *Stem* 12—18 inches high, erect, terete, glabrous. *Leaves* 1—2 inches long, flat, glabrous on the upper, scabrous on the under surface: sheaths shorter than the joints; stipules membranous, lacerate. Valves of the *calyx* unequal, linear-lanceolate, acute: the keels serrulate. Valves of the *corolla* lanceolate, acute, obscurely 3—5 nerved; the exterior larger than the calyx, and somewhat woolly at base, but not villous; the interior valve smaller. *Styles* shorter than the corolla. *Stigmas* feathered, white.

The flowers in this, are larger than in the two succeeding species.

From the base of the second floret in the lower spikes, a naked pedicel arises like a continuation of the rachis; this in the upper spikes generally bears a third floret. To the A. melicoides of Michaux, this species has much resemblance: it appears to differ in size, as the glumes in this plant are rather small though long, and by wanting the villous sloathing of the base of the florets and pedicels.

From specimens collected at Athens, Georgia. by Mr. Green.

Flowers in April. *Three-flowered Aira.*

6. OBTUSATA. Mich.

A. foliis planis: panicula coarctata; floribus lævibus, obtusis; calycis valva interiore oblique truncata. E.	Leaves flat; panicle contracted; flowers smooth, obtuse; the interior valve of the calyx obliquely truncate.

Mich. 1. p. 62. Pursh, Flor. Amer. Sept. 1. p. 76.

Root perennial. *Stem* erect, about 2 feet high, glabrous. *Leaves* 6—12 inches long. 1—2 lines wide, a little hairy and scabrous: sheaths hairy; stipules membranous. *Panicle* long, composed of erect, alternate or clustered racemes. *Calyx* 2-valved, 2 and sometimes 3-flowered; the exterior valve linear, acute; the interior wide, compressed, very obtuse or truncate, and slightly mucronate. *Corolla* 2-valved, valves nearly equal; the exterior a little larger, compressed, obtuse, the midrib serrated near the point, tinged with green; the interior white, obtuse, the back impressed, and the angles ciliate, serrate; the rachis always extending beyond the flowers. *Anthers* purple.

Grows in dry, pine land, sometimes in pastures. Common.

Flowers March—April. *Obtuse-flowered Aira.*

5. **Mollis.** Muhl. Cat.

A. panicula gracili, racemosa; valva interiore calycis obtusa; foliis linearibus. E.	Panicle slender, racemose; the interior valve of the calyx obtuse; leaves linear.

Stem 1—2 feet high, terete, glabrous, naked towards the summit. *Leaves* short, linear, with the sheaths shorter than the joints. *Flowers* on alternate racemes, not crowded on the rachis. Exterior valve of the *calyx* acute; interior obtuse, with the margins nearly circular. *Corolla* 2-valved, valves nearly acute; the interior shorter, generally two cleft at the summit. *Stigmas* white.

To the preceding species this has much affinity. Its flowers and racemes, however, are never crowded, as in the A. obtusata. Its stem is more slender and naked, and it is in every respect a more delicate plant.

It varies with leaves pubescent, and glabrous. I have also a variety found in the pine barrens of Carolina, with the stem almost setaceous, leaves linear, involute, flowers more crowded on the racemes, and the calyx and corolla rather more acute than in the plant described; perhaps a distinct species.

Grows in the middle and upper country of Carolina, plentifully. Not common in the low country. Athens, Mr. Green. Columbia, Mr. Herbemont.

Flowers April. *Soft Aira.*

MELICA.

Calyx 2-valvis, 2-florus. *Rudimentum* floris inter flosculos.	*Calyx* 2-valved, 2-flowered. *Rudiment* of a flower between the florets.
1. **Glabra.** Mich.	
M. glabra; panicula erecta, laxa; ramulis simplicibus, paucifloris; floribus glumis imberbibus. Persoon, 1. p. 78.	Glabrous; panicle erect, loose; branches simple, few flowered; flowers with the glumes unbearded.

Mich. 1. p. 62.
M. mutrica, Walt. p. 78.

Stem 2—3 feet high, terete, glabrous. *Leaves* very narrow, almost linear, scabrous; sheaths long, slightly scabrous; stipules membranous. *Panicle* long, slender, composed of distinct racemes 3—5 flowered, with the flowers nodding. *Calyx* shorter than the corolla, 2-valved; valves large, ovate, rather acute, unequal, with the margins and summit membranous. *Corolla* 2-valved, unequal; exterior valve lanceolate, somewhat obovate, nerved, concave, with the summit membranous; the interior much smaller, nearly obovate, ciliate. *Neutral floret* pedicellate, 2-valved: valves unequal, obovate. *Stamen* 3. *Anthers* yellow. *Stigmas* white ?

I have from Columbia a variety with the leaves pubescent, the flower evidently smaller, the valves more acute, less membranous at the summit, and handsomely spotted with purple. It is probably the M. altissima, Walt. but is has scarcely character enough for a distinct species.

Grows in fertile soils.

Flowers April. *Large-flowered Melica.*

DACTYLIS.

Calyx 2-valvis, compressus; altera valvula majore, carinata. *Spicæ* aggregatæ et capitatæ.	*Calyx* 2-valved, compressed: one valve large, keeled. *Spikes* clustered, aggregate, and in heads.

1. GLOMERATA.

D. panicula secunda, glomerata. Sp. pl. 1. p. 408.	Panicle secund, clustered.

Eng. Botany, No. 335.

Root perennial. *Stem* 2—3 feet high, terete, glabrous. *Leaves* linear, carinate, very scabrous; sheath scabrous; stipules lacerate. *Panicle* leaning one way; flowers clustered at the extremity of each branch; in small spikes, each 2—4 flowered. Valves of the *calyx* unequal, lanceolate, very acute, mucronate; the keel and margins finely ciliate. Exterior valves of the *corolla* lanceolate; the keel ciliate, with a short straight awn near the summit, as in Bromus); interior valve reflexed, with the margins finely ciliate, 2-cleft at the summit. *Stamens* 3.

Grows near Charleston. James Island. A native of Europe; now naturalized.

Flowers May—June. *Clustered Dactylis.*

POA.

Calyx 2-valvis, multiflorus. *Spicula* ovata; valvulis margine scariosis, acutiusculis.

Calyx 2-valved, many flowered. *Spikes* ovate; valves somewhat acute, and scarious along the margin.

1. Capillaris.

P. panicula laxa, patentissima, capillari; spiculis 3—5-floris; floribus pubescentibus; foliis pilosis; culmo ramosissimo.

Panicle loose, expanding, capillary; spikes 3—5-flowered; flowers pubescent; leaves hairy; stem much branched.

Sp. pl. p. 394. Clayt. p. 13. No. 580.
Pursh, flor. Amer. Sept. 1. p. 79.
Walt. p. 80?

Stem 12—18 inches high, glabrous. *Leaves* linear, short, flat; sheaths longer than the joints, hairy at the throat. *Panicle* diffuse, spreading, on short, somewhat rigid peduncles. *Spikes* 3—5-flowered, purple. Valves of the *calyx* and *corolla* acute, pubescent.

Inhabits Carolina. Muhl. Pursh.

Flowers June—August. *Hair-panicled Poa.*

2. Tenuis. E.

P. panicula ramosissima, patentissima, capillari; spiculis trifloris, glabris, longe pedunculatis; foliis linearibus, prælongis. E.

Panicle branching, expanding, capillary; spikes 3-flowered, glabrous, on long peduncles; leaves linear, very long.

Root perennial? *Stem* 12—18 inches high, somewhat compressed; glabrous, much branched from the root. *Leaves* 10—15 inches long, linear, scabrous, thinly sprinkled along the edges with long hairs; sheath longer than the joints, open, at the throat hairy, hairs long. *Panicle* very large, diffuse, truly capillary. *Peduncles* somewhat verticillate, very long and fine. *Spikelets* 3-flowered; the lower ones sometimes 1-flowered; florets more remote than usual in this genus.

Calyx 2-valved: valves lanceolate, compressed, with the keels serrulate, glabrous. *Corolla* 2-valved: the exterior lanceolate, acuminate, slightly keeled; the interior with the back impressed; both glabrous.

From the preceding species, this differs by a larger and more diffuse panicle, longer peduncles, fewer flowers in the spike, a glabrous, almost transparent corolla, and much longer leaves.

From specimens brought from Greenville, by Mr. Moulins.

Flowers August—September. *Slender Poa.*

3. HIRSUTA. Mich.

P. culmo erecto; foliorum vaginis hirsutissimis; panicula ramosissima, patentissima; spiculis subquinquefloris. E.

Stem erect; sheaths of the leaves very hairy; panicle much branched and expanded; spikelets generally 5-flowered.

Mich. 1. p. 68.
P. simplex, Walt. p. 79.

Root perennial, cespitose. *Stem* 16—24 inches high, strictly erect, slightly compressed, glabrous, angular after branching; branches long, expanding horizontally, hairy in the axils. *Leaves* long, linear, glabrous, serrulate, hairy near the base; sheath much longer than the joints, compressed, very hairy; throat very hairy. *Spikelets* 3—7-flowered. *Calyx* and *Corolla*, valves lanceolate, acute, compressed, keeled: keel serrulate, glabrous, tinged with purple. *Anthers* purple. *Stigmas* white.

Varies with panicle light straw coloured, and bright purple; leaves and panicle more or less hairy. Panicle with age divaricate.

Grows in dry pastures and fields.

Flowers August—October. *Hairy Poa.*

4. PARVIFLORA. Pursh.

P. panicula diffusa, capillari; spiculis parvis, subtrifloris: floribus subobtusis, striatis, caducis: foliis distichis, planis. E.

Panicle diffuse, capillary: spikes small, generally 3-flowered; flowers rather obtuse, striate, caducous; leaves distichous, flat.

Pursh. flor. Amer. Sept. 1. p. 80.
P. striata, La Marck. Enc. Meth. 1. p. 183.

Root perennial. *Stem* decumbent, 12—18 inches high, somewhat compressed, simple, entirely cloathed with the leaves. *Leaves* 6—8 inches long, 1—2 lines wide, flat, very smooth, the margins scarcely roughened; sheaths longer than the stem, closed, glabrous; stipules membranous. *Calyx* 2-valved, unequal, somewhat lanceolate, membranous, expanding, persistent. *Florets* 1—3 (4 Pursh,) caducous. *Corolla* 2-valved; the exterior valve lanceolate, rather obtuse, not keeled, strongly nerved; the interior impressed.

My specimens were not perfect. All the spikelets which had not been exposed, were triflorous; but the calyx was still remarkable for want of connection with the florets.

From specimens sent from Columbia, by Mr. Herbemont.

Flowers July. (Pursh.) *Small-flowered Poa.*

5. CONFERTA. E.

P. paniculis terminalibus, axillaribusque, erectis, coarctatis, confertifloris; spiculis octofloris, glabris. E.

Panicles terminal, and axillary, erect, compressed, with the flowers clustered; spikelets 8-flowered, glabrous.

P. glomerata, Walt. p. 80.

Stem erect, geniculate, 2—3 feet high, terete, glabrous, thickened at the joints. *Leaves* 4—8 inches long, 3 lines wide, glabrous, flat, slightly serrulate along the margin; sheaths open, shorter than the joints; stipules membranous, short. *Panicle* 4—8 inches long. *Spikes* lanceolate, small, very much crowded, generally 8-flowered. Exterior valve of the *corolla* compressed, acute, membranaceous, with 3 or 5 coloured nerves.

This is not the P. glomerata, of Linnæus; I have therefore been obliged to give it another trivial name. From specimens sent from Columbia by Mr. Herbemont.

Flowers *Cluster-flowered Poa.*

6. ANNUA.

P. panicula diffusa, angulis rectis; spiculis obtusis, quinquefloris; culmo obliquo, compresso. Sp. pl. p. 390.

Panicle diffuse; branches expanding at right angles; spikelets obtuse, 5-flowered; stem oblique, compressed.

Root annual. *Stem* about 6 inches high, procumbent, somewhat geniculate, glabrous. *Leaves* 2—3 inches long, 1—2 lines wide, slightly channelled, glabrous, serrulate; sheath as long as the joints, glabrous, contracted at the throat; stipules membranous. *Spikelets* frequently 4-flowered. *Calyx*, and *corolla*, with the valves lanceolate, 5-nerved, rather acute, slightly pubescent. *Anthers* and *Stigmas* white.

A tender, delicate, early grass; common around buildings, in gardens, and cultivated grounds; perhaps originally imported, now universally diffused.

Flowers February—April. *Early Poa.*

7. Autumnalis. Muhl.

P. cæspitosa; foliis planis; paniculis diffusis; spiculis obtusis, subtrifloris; floribus pubescentibus, apice compressis. E.	Cespitose; leaves flat; panicles diffuse; spikelets obtuse, generally 3-flowered; flowers pubescent, compressed at the point.

Root perennial, cespitose. ***Stem*** erect, 12—18 inches high, terete? glabrous. ***Leaves*** 6 inches long 1—2 lines wide, flat, slightly scabrous; sheaths shorter than the joints; stipules membranous. *Panicle* loose, not appressed. *Calyx*, valves unequal, acute. *Corolla*, the exterior valve lanceolate, obtuse, with the summit as if compressed, distinctly 5-nerved.

This may be the P. compressa, Walt. but is very distinct from specimens of P. compressa, Lin. as sent me by Dr. Muhlenburg. Dr. M. noticing a specimen of this grass which I had sent him, says, "It appears to be my flexuosa, but as Smith has a flexuosa, we may name it Autumnalis." The Doctor has retained flexuosa in his catalogue; but as there is nothing flexuous to be observed in my specimens, the plant on the contrary being unusually erect, I have used the name entered in my herbarium.

From specimens sent by Mr. Herbemont, from Columbia. Found in Georgia by Dr. Baldwin.

Flowers *Autumnal Poa.*

8. Viridis. Muhl. Cat.

P. foliis planis, linearibus, abrupte acutis; panicula subconferta; spiculis ovatis, acutis, quadrifloris. E.	Leaves flat, linear, abruptly acute; panicle somewhat crowded; spikes ovate, acute, four flowered.

Root perennial, cespitose. ***Stem*** erect, columnar, striate, glabrous, 18 inches high. ***Leaves*** 2—4 inches long, 2 lines wide, glabrous; sheath open, glabrous; stipules membranous. *Panicle* expanding; branches 3—4 at each joint. Valves of the *calyx* and *corolla* very acute, distinctly 5-nerved; margins and summit scarious, white; keel serrulate. ***Florets*** generally 3—5 in each spikelet, woolly at the base.

A fine winter grass, remarkable for its deep green colour, and soft succulent leaves. As it bears the summer heats, in close, rich soils, it wants only size to render it a valuable acquisition to the farmer.

Not uncommon near Charleston. Supposed to have been brought from the upper country. It is probably only a variety of the P. pratensis, Lin.

Flowers May—June. *Green Poa—Green grass.*

9. ANGUSTIFOLIA ?

P. foliis linearibus, involutis; panicula subconferta; spiculis lanceolatis, acutis, quadrifloris; floribus basi villosis. E.	Leaves linear, involute; panicula somewhat crowded; spikes lanceolate, acute, four flowered; flowers villous at base.

Sp. pl. 1. p. 387.
R. stolonifera ? Muhl. Cat.

Root perennial. *Stem* 1—2 feet high, glabrous, columnar. *Leaves* glabrous, 2—6 inches long, in dry weather involute; the stem leaves wider than those that appear to be from the root; stipules membranous, short. *Panicle* (with us) much crowded. Valves of the *florets* acute, 5-nerved, generally tinged with purple, very villous at the base.

The spikes are more crowded, and the florets larger than in P. viridis.

Grows around Charleston. Sent me from Middleton place, Ashley river, by Mr. Moulins; from Columbia, by Mr. Herbemont.

Flowers May. *Narrow-leaved Poa.*

10. TENELLA ?

P. panicula subverticillata, patente; spiculis linearibus, 6—10-floris; floribus parvulis, glabris, valva exteriore corollæ caduca; culmo decumbente. E.	Panicle somewhat verticillate, expanding; spikes linear, 6—10-flowered; flowers small, glabrous, with the exterior valve of the corolla caducous; stem decumbent.

Sp. pl. 1. p. 395. Pursh, Flor. Amer. Sept. 1. p. 80.

Annual. *Stem* decumbent, glabrous, terete, 6—12 inches high. *Leaves* 1—2 inches long, subulate, scabrous on the upper surface, smooth on the under; throat of the sheath contracted, and very hairy. *Panicle* slender, expanding; branches somewhat verticillate, with a few long hairs in each axil. *Peduncles* 2—5 lines long. Exterior valve of the *corolla* compressed, acute, 3—5 nerved, purple, falling with the mature seed. *Anthers* purple. *Stigmas* feathered, white. *Seed* oval, impressed near the base.

This plant agrees, in many respects, minutely with the description of the P. tenella, by Retz; but the flowers are neither nodding, obtuse, nor fringed along the margins. Whenever the plants can be compared they will probably be found distinct. It agrees somewhat with the P. pectinacea, of which I believe Dr. Muhlenberg considered it a variety; but it is smaller and more decumbent; and the interior valve of the corolla when persistent, is appressed to the rachis.

Grows in cultivated grounds. Common.
Flowers through the summer. *Small narrow-spiked Poa.*

11. PECTINACEA. Mich.

P. panicula laxa, pyramidata, erecta; spiculis linearibus, 10—12 floris; rachi demum valvulis interioribus persistentibus pectinata.	Panicle loose, pyramidal, erect; spikes linear, 10—12 flowered; the rachis when old pectinated by the persistent interior valve of corolla.

Mich. 1. p. 69. Persoon, 1. p. 91. Pursh. 1. p. 81.

Stem erect. *Leaves* erect, with the throat of the sheaths, and axils of the panicle, hairy. *Flowers* ovate, acuminate, 3 nerved.
Grows in Carolina. Pursh.
Flowers July.

12. ERAGROSTIS?

P. panicula patente, pyramidata, ramulis alternis; spiculis linearibus, decemfloris, subsessilibus; floribus acutis trinervibus.	Panicle expanding, pyramidal, with alternate branches; spikes linear, 10 flowered, nearly sessile; flowers acute, 3 nerved.

Sp. pl. 1. p. 392.
Pursh. 1. p. 80.

Perennial? *Stem* 2 feet high; geniculate and branching near the base, terete, glabrous. *Leaves* short, linear, almost subulate, glabrous, with 3 or 5 prominent nerves; sheaths hairy at the the throat. Panicle expanding; branches remote, alternate, a little subdivided. *Spikes* generally 10 flowered, on peduncles two or three lines long;

forming racemes on the long branches of the panicle. *Corolla* with the exterior valve transparent, 5 nerved, very acute.

Grows in cultivated land.
Flowers through the summer.

13. NITIDA. E.

P. culmo erecto, glaberrimo; panicula majuscula, diffusa, capillacea, sub-verticillata; pedunculis prælongis; spiculis lanceolatis, octofloris. E.	Stem erect, very glabrous; panicle large, diffuse, capillary, somewhat verticillate; peduncles long; spikes lanceolate, eight flowered.

Root annual? *Stem* 1 foot high, and with the whole plant, very glabrous. *Leaves* long, linear, involute when dry, scabrous near the points, with a few hairs at the throat of the sheath. *Panicle* very large, 12—18 inches high, expanding. *Peduncles* 1—3 inches long, capillary, very glabrous. *Calyx* compressed, very acute, with the keel sharply serrulate. Exterior valve of the *corolla* compressed, very acute, transparent, 3 nerved; keel very finely serrulate; margins rounded. *Spike* 7—9 flowered.

Grows in cultivated land. Common on Paris Island.
Flowers through the summer. *Smooth-shining Poa.*

14. REFRACTA. Muhl. Cat.

P. culmo erecto; panicula diffusa, ramulis divaricatis; spiculis ramosis, lineari-lanceolatis, multifloris. E.	Stem erect; panicle diffuse, with the branches divaricate; spikes in racemes, linear-lanceolate, many flowered.

P. amabilis, Walt. p. 80.
P. spectabilis, Pursh, 1, p. 81.

Root perennial. *Stem* erect, 2 feet high, terete, glabrous. *Leaves* linear, 6—10 inches long, 3 lines wide, smooth underneath, slightly scabrous on the upper surface, a little hairy; sheath as long as the joints; stipules very short, membranous, lacerate. *Panicle* large, hairy in the large axils. *Spikes* nearly sitting, 15 to 20 flowered. Exterior valve of the *corolla* compressed, acuminate, 3 nerved. *Filaments* 2? *Anthers* purple. *Stigmas* plumose, white.

Grows in damp soils, in pine barrens, and common along roads.
Flowers August—September. *Refracted Poa.*

15. FLUITANS.

P panicula ramosa; spiculis appressis, teretibus. multifloris; spiculis obtusis, septemnerviis; basi duplicato-nervosis. Smith, Fl. Brit. 1. p. 95.	Panicle branching; spikes appressed. columnar, many flowered; florets obtuse, seven nerved; the nerves double at base.

Festuca fluitans, Sp. pl. 1. p. 426. Mich. 1. p. 66.
Big. p. 26. Pursh, 1. p. 84.

Root perennial. *Stem* erect, glabrous. *Leaves* 6—8 inches long, 4—5 lines wide, glabrous on the under surface, scabrous on the upper, slightly keeled with the midrib; sheaths large, longer than the points, glabrous; stipules large, membranous. *Panicle* long, expanding, branches simple. *Spikes* sessile, or on very short footstalks, generally 9—10 flowerered. Valves of the *calyx* unequal, smaller than the corolla, membranous. Exterior valve of the *corolla* very obtuse, 7 nerved, sometimes mucronate at the summit by the projecting nerves; at base are the rudiments of intermediate nerves; under a lens slightly pubescent, particularly along the nerves, and scarious along the margins; interior valve longer, obtuse, slightly bifid.

Grows in the upper districts of Carolina.

Flowers May—August.

16. REPTANS. Mich.

P. culmo decumbente, repente; panicula parvula, subfasciculata; spiculis lineari-lanceolatis, multifloris; glumis acutissimis. E.	Stem decumbent, creeping; panicle small. frequently fasciculated; spikes linear-lanceolate, many flowered; glumes very acute.

Mich. 1 p 69. Pursh, 1. p. 81.
P. hypnoides? La Marck. Illus. 1. p. 185.

Root annual, (Mich.) *Stem* decumbent, 6—18 inches long, taking root at the joints, glabrous, terete. *Leaves* subulate, striate, acute, slightly pubescent, 1—2 inches long; sheath generally shorter than the joints, hairy at the throat. *Panicle* somewhat diffuse *Spikes* 15—20 flowered. Exterior valves of the *corolla* tapering to a very acute point, pale straw colour, midrib and 2 nerves green, and prominent, 2 outer nerves short, and obscure.

In the specimens given me by Mr. Correa, there were in some spikes 40 florets.

Grows in cultivated, high lands, near Beaufort. in fertile soils.

Collected in the upper country, by Mr. Correa de Serra.

Flowers through the summer. *Creeping Poa.*

17. RIGIDA.

P. panicula lanceolata, subramosa, secunda; ramulis alternis, secundis. Sp. pl. 1. p. 396.	Panicle lanceolate, a little branched, secund; branches alternate, secund.

P. cristata, Walt. p. 80.

Root perennial. *Stem* 2—4 inches high, assurgent, generally geniculate, glabrous, rigid. *Leaves* subulate, ½—1½ inches long, glabrous; when dry involute, rigid; sheath generally shorter than the joints; stipules membranous. *Panicle* 1—1½ inches long, collected on one side of the stem. *Peduncles* short, lower ones branching. *Spikes* linear-lanceolate, 5—7 flowered; flowers a little remote. Valves of the *calyx* keeled, serrulate; of the *corolla*, rounded, somewhat acute, generally tinged with dark purple.

Grows in very dry soils. Common around Beaufort.
Flowers April—May. *Rigid Poa.*

18. QUINQUEFIDA. Pursh.

P. culmo erecto; panicula majuscula, patente, subspicata; spiculis quinquefloris, valva exteriore corollæ 3—5 mucronata. E.	Stem erect; panicle large, expanding, somewhat spiked; spike 5 flowered, with the exterior valve of the corolla 3—5 pointed.

Pursh, 1. p. 81.
P. pratensis, Walt. p. 80.
P. Sesleroides, Mich. 1. p. 68.
Clayton, p. 13, No. 273? Poa flava? Sp. pl. 1. p. 390.

Perennial. *Stem* 4 feet high, slightly compressed, glabrous. *Leaves* distichous at the base of the stem, 8—16 inches long, 3—4 lines wide, slightly scabrous on the upper surface, serrulate along the margins; sheath shorter than the joints, hairy at the throat. *Panicle* somewhat verticillate near the base, with the branches expanding, divided, and pendulous at the extremities. *Spikes* on very short peduncles. Valves of the *calyx* lanceolate, acuminate, unequal, with the keel scabrous near the summit. Exterior valve of the *corolla* distinctly 3 nerved, (5 nerved, Pursh,) with the nerves projecting beyond the margins; interior valve 2 cleft; both hairy near the base, along the margins and nerves, purple towards the summit. *Anthers* white. *Styles* 2, shorter than the corolla. *Stigmas* feathered, purple.

There are probably more species than one now mingled under this name.

Grows in sandy soils. With us a common grass.
Flowers September—October. *Tall-purple Poa.*

19. Ambigua. E.

P. panicula spicata, patente; spicis ovatis, crassis, sessilibus, 5—6 floris; valva exteriore corollæ mucronata. E.	Panicle spiked, expanding; spikes ovate, thick, sessile, 5—6 flowered; the exterior valve of the corolla mucronate.

Perennial. *Stem* 2 feet high, terete, glabrous. *Leaves* linear, glabrous; sheaths shorter than the joints, bearded at the throat. *Panicle* small, expanding, pyramidal, with the branches alternate. *Spikes* somewhat distant, sessile, almost glabrous, dark purple. Valves of the *calyx* unequal, acute. Exterior valve of the *corolla* ovate, pointed just behind the summit with the projecting midrib, 3 nerved, the margins and midrib very hairy near the base; interior valve deeply impressed, not hairy.

I have placed this plant here, because it appears to me evidently a congener with the preceding species. Both have the strong projecting midrib, the singular fringe, near the base of the corolla, and thick compact spike. They are probably both species of Koeleria.

Found in the mountains of Carolina, by Dr. Macbride, and in the lower country of Georgia, by Dr. Baldwin.

Flowers—September. ***Round-spiked Poa.***

BRIZA. Gen. pl. 115.

Calyx 2-valvis, multifloris. *Spicula* disticha, valvulis cordatis, obtusis; interiore minuta.	*Calyx* 2 valved, many flowered. *Spikes* distichous, with the valves cordate, obtuse; the interior valve minute.

1. Eragrostis.

B. spiculis lanceolatis, flosculis viginti. Sp. pl. 1. p. 405.	Spikes lanceolate, 20 flowered.

Mich. 1. p. 72. Pursh, 1. p. 82.

Root annual. *Stem* decumbent, geniculate, glabrous, columnar. *Leaves* linear-lanceolate, smooth on the under surface, scabrous on the upper, and along the edges; sheaths shorter than the joints, bearded at the throat. *Panicle* decompound, erect. *Spikes* oblong-ovate, slightly cordate at base. *Flowers* 10—30. Exterior valve of the *corolla* acute, three nerved; the interior small ciliate along the nerves; the valves expand, when the seed is mature. *Anthers* white, *Stigmas* feathered.

Grows in cultivated lands. Very common. Perhaps originally imported. Appears to connect the genus Poa to the Briza.
Flowers June—November. *Common Briza.*

UNIOLA. GEN. PL. 116.

Calyx multivalvis. *Spicula* ovata, compressa, carinata. *Styli* brevissimi. *Nectarium* diphyllum, emarginatum. E.	*Calyx* many valved. *Spikes* ovate, compressed, keeled. *Styles* very short. *Nectary* 2 leaved, emarginate.

1. PANICULATA.

U. panicula majuscula, compressa; spiculis subsessilibus; calyce 5-valvi; floribus triandris.	Panicle large, compressed; spikes nearly sessile; calyx 4—5 valved; flowers triandrous.

Sp. pl. 1. p. Clayt. p. No. 909. Walt. p. 79.
U. maritima, Mich. 1. p. 71.

Root perennial. *Stem* erect, 4—8 feet high, columnar, glabrous. *Leaves* 3 feet long, narrow, very acute, entire, flat, not channelled, glabrous, with the upper surface slightly scabrous; sheaths longer than the joints, densly fringed at the throat. *Spikes* many flowered, (10); the upper florets generally sterile. Exterior valve of the *corolla* compressed, rather obtuse, slightly mucronate, 8 nerved besides the keel; nerves double; keel serrulate near the summit; margins slightly fringed; the interior of the same length, the margins bent back and ciliate. *Nectary* 2 leaved, covering the germ, unequally 3 cleft. *Stamens* 3. *Anthers* yellow. *Styles* with the *Stigma*, only half as long as the corolla. *Stigmas* plumose, white. *Seed* oblong.

Grows abundantly on the sand hills that border the ocean.
Flowers July—August. *Sea-shore Uniola.*
Sea-side Oats:

2. SPICATA.

U. foliis distichis, involutis; panicula compressa; calyce 2—3 valvi; spiculis subsessilibus; floribus triandris. E.	Leaves distichous, involute; panicle compressed; calyx 2—3 valved; spikes nearly sessile; flowers triandrous.

Sp. pl. 1. p. 406.
Walt. p. 79.
Festuca distichophylla, Mich. 1. 67. Pursh, 1. p. 84.

Root creeping, perennial. *Stem* 1 foot high, erect, and ascending, terete, glabrous. *Leaves* subulate, expanding, acute, entire, smooth on the under surface, slightly glaucous and scabrous on the upper, involute; sheaths longer than the joints; the throat ciliate. *Spikes* 8—10 flowered. *Calyx* 2, sometimes 3 valved, smaller than the corolla. Exterior valve of the *corolla* compressed, acute; interior valve of the same length, rather obtuse. *Nectaries* 2, covering the germ, dilated and obtuse at the summit. *Anthers* white. *Styles* half the length of the corolla. *Stigmas* plumose.

This plant has been transferred to the Festuca, by Michaux; but its corolla, nectary, and styles, show its connection with this genus.

Grows in places overflowed by salt-at high tides.

Flowers July—September. *Spike-flowered Uniola.*

3. LATIFOLIA. Mich.

U. panicula diffusa; spiculis longe-pedunculatis; calyce trivalvi; floribus monandris. E.	Panicle diffuse; spikes on long peduncles; calyx 3 valved; flowers monandrous.

Mich. 1. p. 70. Pursh, 1. p. 82.

Root perennial? *Stem* 2 feet high, terete, glabrous. *Leaves* 4—6 inches Inches long, ½—1 wide, flat, smooth, with the margins scabrous; sheaths longer than the joints; throat cilliate. *Panicle* compressed; pedicels of the spikes ½—1½ inches long. *Spikes* with 7 to 10 fertile florets, and 2 or 3 at the summit, sterile. Exterior valve of the *corolla* acute, 12 nerved, besides the keel, nerves double; keel ciliate: interior valves shorter, with the reflexed margins finely ciliate when viewed through a lens.

From specimens collected by Dr. Macbride, in the mountains of Carolina. The leaves of these specimens are narrower than those of some sent me from Pennsylvania, by Dr. Muhlenburg; though the species is certainly the same.

Flowers August—September. *Broad-leaved Uniola.*

4. NITIDA. Baldwin.

U. foliis planis, angustis; panicula sparsa, patula; spiculis subsessilibus, paucis; calycibus trivalvibus; floribus monandris. Bald.	Leaves flat, narrow; panicle scattered, expanding; spikes few, nearly sessile; calyx three valved; flowers monandrous.

This species in its habit approaches the nearest to the U. latifolia, from which however it is readily distinguished by its leaves, its thin spreading panicle, its smaller and fewer flowered spike.
Height 2—5 feet and upwards. Baldwin.*

Grows at Crooked river bridge, Camden county, Georgia.

Flowers June—July.

5. Gracilis. Mich.

U. panicula racemosa, appressa, gracili; calyce 3-valvi, 3-floro; floribus laxe imbricatis, monandris. E.	Panicle racemose, appressed, slender; calyx 3 valved, 3 flowered; flowers loosely imbricate, monandrous.

Mich. 1. p. 71. Pursh. 1. p. 82.

Root perennial. *Stem* erect, 2 feet high, terete, glabrous. *Leaves* linear, acute, flat, glabrous, smooth on the under surface, scabrous on the upper; sheaths shorter than the joints, with long hairs scattered along the margins; throat hairy. *Panicle* long, slender, erect, with the branches appressed. *Spikes* 3 flowered. *Anthers* and *Stigmas* purple.

Grows in rich soils, preferring damp and shaded situations. Very common.

Flowers through the summer. *Slender Uniola.*

FESTUCA. Gen. pl. 119.

Calyx 2 valvis. *Spicula* oblonga, teretiuscula, glumis acuminatis.	*Calyx* 2 valved. *Spike* oblong columnar, with the glumes acuminate.

1. Tenella.

F. panicula simplicissima, secunda; spiculis suboctofloris, aristatis. Sp. pl. 1. p. 419.	Panicle simple, secund; spikelets generally eight flowered, awned.

Pursh. 1. p. 83.
Festuca octoflora, Walt. p. 81.
Festuca bromoides, Mich. 1. p. 66.

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* It gives me much pleasure to mention, that Dr Baldwin has promised to send me in future not only specimens but descriptions of the new plants with which he has enriched, and will continue to enrich the flora of the Southern States; and that I shall probably be able to add from his pen many observations on the known plants, which have hitherto been inaccurately or imperfectly described. The notes of so accurate and skilful a Botanist, made from the living plants, will not only prevent the mistakes and omissions which must unavoidably recur in the examination of dried specimens, but will add to this "Sketch" a mass of original observations, which must greatly enhance its value.

Root annual. *Stem* 6—12 inches high, erect, geniculate near the root, columnar, roughened near the panicle. *Leaves* 2—3 inches long, subulate, acute, glabrous on the under surface, pubescent and slightly scabrous on the upper. *Panicle* leaning, composed of simple racemes. Spikelets lanceolate, 6—9 flowered, nearly sessile. *Calyx* 2 valved, valves unequal, slightly keeled, scabrous, smaller than the corolla. *Corolla* 2 valved; exterior valve slightly keeled, scabrous, terminating in an awn as long as the valve; interior valve smaller, very acute. *Filaments* 2? scarcely longer than the germ. *Anthers* purple. *Stigmas* plumose.

The anthers and stigmas appear in this species rarely to project out of the corolla.

Grows in very dry soils. Common.

Flowers April—May.

2. POLYSTACHYA? Mich.

F. culmo procumbente, radicante; panicula majuscula, subsecunda; spicis lineari-lanceolatis, subdecemfloris, aristatis. E.	Stem procumbent, taking root; panicle large, secund; spikes linear-lanceolate, generally ten flowered, awned.

Mich. 1. p. 66. Pursh, 1. p. 83.
F. multiflora, Walt. p. 81.
F. procumbens, Muhl. Cat.

Root perennial? *Stem* 1—2 feet high, procumbent, branching, taking root at the joints, columnar, glabrous. *Leaves* 8—12 inches long, narrow, subulate, scabrous; sheaths much longer than the joints; stipule a lacerated membrane resembling hair. *Panicle* erect, composed of many simple racemes. Spikelets sessile, generally 10 flowered. *Calyx* 2-valved, the exterior small, very acute, keeled; the interior as large as the corolla, awned. *Corolla* 2 valved; the exterior keeled, lanceolate, terminated by an awn rather shorter than the valve; the awn of the upper florets diminishing in length; awn and keel scabrous.

To the F. multiflora, Walt. and F. polystachya, Mich. it bears much resemblance, but does not agree exactly with the description of either.

Grows in wet soils, around ponds. Paris Island. Rare to me.

Flowers September—October. *Procumbent Festuca.*

3. MYURUS.

F. panicula gracili, coarctata; spiculis quadrifloris, aristatis, pilosis; floribus monandris. E.	Panicle slender, appressed; spiklets four-flowered, awned, hairy; flowers monandrous.

Sp. pl. 1. p. 422. Pursh, 1. p. 83.
F. myuros, Mich. 1. p. 66.
F. quadriflora, Walt. p. 81.

Root annual. *Stem* 6—12 inches long, erect, geniculate near the root, columnar, glabrous *Leaves* 2—3 inches long, subulate, concave, not keeled, glabrous on the under surface, scabrous on the upper, and along the margins; sheaths nearly as long as the joints; stipules membranous. *Panicle* equal, not secund. Spikes 4—7-flowered, nearly sessile. *Calyx* 2 valved, valves unequal, very small, linear-lanceolate, acute. *Corolla* 2 valved; exterior valve concave, hairy, particularly near the summit, terminating in an awn twice as long as the valve; the interior valve membranous, lanceolate, unawned, with the back impressed, as is the case in all spikes with distichous flowers. *Filament* one? scarcely longer than the germ. *Styles* 2, very short. *Stigmas* plumose, white. *Seed* oblong, acute.

Of this plant, as of the F. tenella, I have never seen the stamens or pistils uncovered by the corolla, yet I have no doubt but that at some particular hour, or in some peculiar temperature, these organs are exposed to the influence of the atmosphere.

I once considered this plant as distinct from the Linnæan F. myurus, and named it F. monandra; the description however of Lamarck in the Encyclopedie Methodique renders it probable that it is the same: the only circumstances which still occasion any doubt, the hairy corolla and solitary filaments, are omitted in his description.

Grows in very dry soils.

Flowers March—April. *Hairy-flowered Festuca.*

4. PARVIFLORA. E.

F. panicula subæquali, gracili, appressa; spiculis tereti-subulatis, quinquefloris, aristatis; calycibus muticis. E.	Panicle equal, slender, appressed; spikelets terete subulate, five-flowered, awned; calyx unawned.

Root fibrous, perennial. *Stem* 12—18 inches high, slender, glabrous. *Leaves* linear, almost filiform, 3—4 inches long, slightly scabrous; sheaths nearly as long as the joints; stipule membranous, truncate. *Spikes* terete, tapering to the summit but not compressed as in F. tenella. Valves of the *calyx* unequal, very acute; keel serrulate. Exterior valve of the *corolla* terminating in an awn about its own length; interior valve small lanceolate, with the margin slightly reflexed. *Styles* very short. *Stigmas* feathered, white.

Near to F. spicata, Pursh. The upper or interior florets are shorter at first than the exterior by which they appear to be enveloped, but gradually extend with age.

From specimens collected by Mr. J. S. Bennett, in the pine barren near Orangeburgh.

Flowers April.

5. DURIUSCULA.

F. panicula secunda, oblonga, ramosa; spiculis sexfloris, subcylindricis; foliis radicalibus setaceis, caulinis planis. Sp. pl. 1. p. 421.	Panicle secund, oblong, branching; spikelets six flowered, nearly cylindrical; radical leaves setaceous, stem leaves flat.

Eng. Botany, No. 470. Pursh 1. p. 82.

Root perennial, (Smith). *Stem* 12—18 inches high, erect, columnar, glabrous. *Leaves* 4—6 inches long, 2 lines wide, subulate, slightly scabrous; sheaths longer than the joints; stipules membranous, very short. *Panicle* erect, branches leaning one way, generally short, simple. *Spikes* racemose on very short peduncles, 6—8 flowered. Valves of the *calyx* unequal, very acute, smaller than the corolla. Exterior valve of the *corolla* lanceolate, very acute, but not awned; interior similar, but smaller; the keels serrulate, and under a strong lens, a fine pubescence is visible all over the corolla.

Found near Savannah by Dr. Baldwin. Has doubtless been introduced from Europe.

Flowers

6. GRANDIFLORA. La Marck.

F. panicula simplici, erecta; spiculis perpaucis, subseptemfloris; flosculis acutis, distantibus.	Panicle simple, erect; spikelets very few, generally seven flowered; florets acute, distant.

Lam. illust. 1. p. 191. Pursh, 1. p. 84.

Collected in Carolina, by Mr. Fraser.

Large-flowered Festuca.

7. UNIOLOIDES. Willd.

F. panicula contracta; spiculis compressis, octofloris, muticis; foliorum vaginis apice barbatis. Willd. Hor. Berol.	Panicle contracted; spikelets compressed. 8 flowered, unawned; sheaths of the leaves bearded at the summit.

Pursh, 1. p. 84.

Panicle nodding, expanding. *Spikes* oblong-lanceolate. Root fibrous. Pursh.

Grows in Carolina. Willd. Pursh.

8. NUTANS.

F. panicula ramis secundis, nutantibus, scabris; spiculis ovatis, compressis, subsexfloris; floribus acutis, muticis; foliis lineari-lanceolatis. Willd.

Panicle with branches on one side, nodding, scabrous; spikelets ovate, compressed, generally 6 flowered; flowers acute, unawned; leaves linear-lanceolate.

Pursh, 1. p. 84.

Stem 2—3 feet high, terete, glabrous. *Leaves* long, glabrous, strongly nerved; stipules membranous. *Flowers* almost terete, much longer than the calyx Exterior valve of the *corolla* concave? 5 nerved, very acute.

Grows in Carolina. Pursh. My specimens are from Pennsylvania.

Flowers July. Pursh. *Nodding Festuca.*

BROMUS.

Calyx 2-valvis. *Spicula* oblonga, teres, disticha; arista infra apicem.

Calyx 2 valved. *Spikelet* oblong, columnar, distichous; with an awn below the summit.

1. SECALINUS.

B. panicula nutante; spiculis ovatis, compressis; glumis nudis, distinctis; aristis subulatis, brevioribus, rectis. Sp. pl. 1. p. 428.

Panicle nodding; spikelets ovate, compressed; glumes naked, distinct; awns subulate, short, straight.

Pursh, 1. p. 85.

Root annual? *Stem* 2 feet high, erect, columnar, glabrous, thickened at the joints. *Leaves* 6—14 inches long, 3—4 lines wide, somewhat glabrous on the under surface, hairy on the upper and ciliate. *Panicle* oblong, erect, branching. *Spikes* on peduncles generally 5—10 lines long, oblong-ovate, 8—10 flowered, compact; florets large. Valves of the *calyx* unequal, lanceolate, acute, unawned; the interior as large as the corolla. Exterior valve of the *corolla* ovate, emarginate, 7 nerved, under a lens, pubescent, particularly along the midrib; awn very short, straight; the inner valve smaller, reflexed, with the margins ciliate. The awn is said to be slightly reflexed when the seed is mature.

From specimens sent from St. John's, by Dr. Macbride.

Flowers July.

2. CILIATUS.

B. panicula nutante; foliis utrinque, vaginisque subpilosis; glumis ciliatis; spiculis lineari-lanceolatis, 8—10 floris.

Panicle nodding; leaves on both sides, and the sheaths hairy; glumes ciliate; spikelets linear-lanceolate, 8---10 flowered.

Sp. pl. 1. p. 433. Pursh, 1. p. 85.

Root perennial. *Stem* slender. *Panicle* conspicuously nodding. (Linn.) *Spikes* slender, nearly cylindrical. Valves of the *calyx* unequal, very acute, but not awned, pubescent. Valves of the *corolla* unequal: exterior lanceolate, concave, pubescent, ciliate, with three strong double nerves and four obscure ones alternately arranged; awn nearly as long as the valve; the interior valve much smaller, lanceolate, with the margins reflexed, ciliate. *Stamens* 3. *Anthers* yellow. *Styles* short. *Nectaries* obovate, emarginate?

This is the B. ciliatus. of Dr. Muhlenburg; but it may admit of some doubt whether it is the B. ciliatus, of Linnæus. Linnæus remarks, that the margins, and not the back, are very hairy; in this plant, the back and margins are equally hairy.

Grows in the mountains of Carolina. Found on the Oakmulgee, by Dr. Baldwin.

Flowers May—July. *Fringed Bromus.*

3. PURGANS.

E. panicula nutante, crispa; foliis utrinque nudis; vaginis villosis; glumis pilosis. Sp. pl. 431.

Panicle nodding; leaves naked; sheaths villous; glumes hairy.

Root perennial. *Stem* erect, 1—2 feet high columnar, glabrous. *Leaves* 6—12 inches long, 2—3 lines wide, scabrous, free from hair; sheaths much longer than the joints, clothing the stem completely, extremely villous, with the hairs generally reflected; stipules a hairy membrane. *Panicle* diffuse, peduncles hairy, flexuous; spikes lanceolate, very acute, 4—6 flowered. Valves of the *calyx* unequal, lanceolate; the exterior very acute; the interior awned; both hairy. Exterior valve of the *corolla* larger than the calyx, awned, near the summit hairy; the interior ciliate.

Grows in the mountains of Carolina.

Flowers July—September. *Cathartic Bromus.*

AVENA.

Calyx 2-valvis, multiflorus. *Arista* dorsalis, contorta.	*Calyx* 2 valved, many flowered. *Awn* dorsal, contorted.

1. Spicata.

A. spicata; calycibus spiculis sexfloris longioribus; petalo exteriore apice aristato, furcatoque. Sp. pl. 1. p. 453.	Flowers spiked; calyx longer than the six flowered spikelets; the exterior petals awned, and forked.

Pursh, 1. p. 86.
A. glumosa, Mich. 1. p. 72.

Root perennial? *Stem* 2 feet high, erect, columnar, somewhat glabrous, pubescent near the summit. *Leaves* 2—4 inches long, subulate, acute, rather flat, glabrous on the upper surface, pubescent, almost villous on the under; sheaths villous, shorter than the joints, bearded at the throat. *Panicle* small; branches simple; spikes racemose, on peduncles 2—6 lines long. *Calyx* 2 valved, generally six-flowered; valves longer than the spike, compressed, keeled; the keel finely serrulate; margins membranous. *Corolla* 2 valved; exterior valve lanceolate, compressed, very villous, the sides terminating in two awns nearly as long as the valve, between which arises a contorted, spiral, dorsal awn twice as long as the valve; interior valve much smaller, lanceolate, finely fringed.

Grows in the upper districts of Georgia and Carolina, in high land. Columbia county, Georgia.

Flowers April. *Spike-flowered Avena.*

2. Pennsylvanica.

A. panicula attenuata; calycibus bifloris; seminibus villosis; aristis calyce duplo longioribus. Sp. pl. 1. p. 445.	Panicle slender; calyx two-flowered; seeds villous; the awn twice as long as the calyx.

Pursh, 1. p. 85.

Grows in Carolina, Pursh. Found in the western districts of Georgia, by Dr. Baldwin.

Flowers May—June. *Pennsylvanian Oat-Grass.*

ELEUSINE.

Flores laterales. *Calyx* bivalvis, 2—6 florus; flores omnes fertiles.	*Flowers* on one side of the rachis. *Calyx* 2 valved, 2—6 flowered; all the florets fertile.

1. MUCRONATA? Mich.

E? culmo erecto; panicula prælonga; spicis alternis, filiformibus, longis; spiculis filiformibus, subtrifloris. E.	Stem erect; panicle very long; spikes alternate, filiform, long; spikelets filiform, generally 3 flowered.

Mich. 1. p. 65. Pursh, 1. p. 87.
E. filiformis, Muhl. Cat.

Root annual? *Stem* 1—3 feet high, terete, glabrous. *Leaves* 6—12 inches long, 4—5 lines wide, slightly scabrous; sheaths generally longer than the joints, hispid; stipules membranous, short, bearded at the summit. *Panicle* 1—2 feet long. Spikes 4—5 inches long. *Calyx*, valves nearly equal, keeled, acute, the keel coloured, the margins membranous. *Corolla* 2 valved, valves unequal; the exterior longer, concave, not keeled, obtuse, hairy. *Filaments* 3. *Anthers* very pale purple. *Styles* scarcely as long as the corolla. *Stigmas* slender, dark purple, feathered.

The valves of the calyx are very acute, but I should not call them mucronate. We have probably more species than one with filiform spikes. To the E. indica this plant has so little apparent affinity, that it will probably yet be separated from this genus.

Grows in cultivated land; not rare.

Flowers July—October.

2. INDICA.

E. spicis digitatis, strictis, linearibus; spiculis lanceolatis, quinquefloris; culmo compresso, declinato, glabro. E.	Spikes digitate, straight, linear; spikelets lanceolate, 5 flowered; stem compressed, declining, glabrous.

Mich. 1. p. 64. Pursh, 1. p. 87.
Cynosurus Indicus, Sp. pl. 1. p. 417. Walt. p. 32.

Root perennial. *Stem* 1—2 feet high, decumbent, shining; joints incrassate. *Leaves* long, linear, the under surface smooth, glabrous; the upper hairy, scabrous; sheaths long, hairy, compressed. *Spikes*

3—7, generally 5; 4 digitate, and 1 below. Spikelets 4—6 flowered, (I have found them most commonly 5 flowered.) *Calyx*, valves unequal, acute, keeled; keels scabrous. *Corolla*, valves acute. *Stamens* 3. *Styles* 2.

Grows in rich cultivated land very abundantly. It is a fine succulent grass, and one of our best grasses for hay. It makes its appearance much later in the spring than the crab-grass, but grows more luxuriantly and vigorously.

Flowers June—October. *Indian Eleusine.—Crow-foot Grass.*

3. CRUCIATA. E.

E? spicis quaternis, patentibus, mucronatis; spiculis subtrifloris; calycis valvula exteriore aristata, corollæ acutissima. E.	Spikes by fours, expanding, mucronate; spikelets generally 3 flowered; the exterior valve of the calyx awned, of the corolla very acute.

Chloris mucronata, Mich. 1. p. 59.
Pursh, 1. p.

Root annual. *Stem* 12—18 inches high, decumbent, finally assurgent, geniculate, taking root at the joint, glabrous. *Leaves* distintly alternate, narrow, 4—8 inches long, 2—3 lines wide, acute, slightly undulate, hairy, ciliate; sheaths scarcely half as long as the joints; stipules membranous. *Spikes* sometimes 2—3, but in vigorous plants always 4; the rachis extends with an acute point almost half an inch beyond the spikelets; spikelets 3 flowered, 2 fertile, the terminal floret sterile, sometimes wanting; florets diverging. *Calyx* 2 valved, exterior valve ovate, keeled, emarginate, awned; the interior small, acute, unawned. *Corolla* 2 valved; the exterior valve keeled, with the keel serrulate, compressed, slightly recurved, acuminate; the interior valve smaller.

Grows in cultivated ground; common.

Flowers July—October. *Cross-spiked Eleusine.*

MONOCERA.

Flores laterales. *Calyx* 3-valvis, multiflorus; valvis sub apice aristatis.	*Flowers* on one side of the rachis. *Calyx* 3 valved, many flowered; the valves awned below the summit.
Herm. *Corolla* bivalvis; valvis inæqualibus;	Herm. *Corolla* 2 valved, unequal; the ex-

exteriore sub apice aristata.

Neut. *Corolla* bivalvis; valvis muticis.

terior valve awned below the summit.

Neut. *Corolla* 2 valved; valves unawned.

1. **AROMATICA.**

Ægilops aromaticum, Walt. p. 249.
Chloris monostachya, Mich. 1. p. 59. Sp. pl. 4. p. 928. Pursh.

Root perennial. *Stem* 3—4 feet high, columnar, pubescent, slightly scabrous. *Leaves* 4—12 inches long, 2—4 lines wide, glabrous on the under surface, the upper surface and margins scabrous; sheaths half as long as the joints, scabrous, hairy at the throat. *Spikes* terminal, solitary, secund; spikelets in two rows. *Rachis* naked at the summit. *Calyx* 3 valved, 3 flowered : exterior valve (involucrum ?) lanceolate, acute, somewhat compressed, villous at base, with three prominent nerves along the back, roughened with globular glands; from the centre of the back an awn half an inch long projects like a horn; the two interior valves lanceolate, compressed, with the margins villous, and a straight, short awn near the summit. *Corolla* 2 valved; exterior valve similar to the interior valves of the calyx, but gradually diminishing; the interior valve smaller, acute, pubescent; the terminal neutral floret 2 valved; valves small, unawned. *Filaments* 3. *Anthers* white. *Styles* 2, shorter than the corolla. *Stigmas* plumose, purple. *Nectaries* 2, obovate, shorter than the germ.

Grows in the open ponds and savannahs of the pine barrens. Very pungent to the taste.

Flowers May—July. *Tooth-ache Grass.*

In this plant, as in the Eleusine cruciata, and even indica, the terminal florets are frequently abortive: but they gradually diminish, and appear to have been sterile, because the spike had produced more buds than it could mature. This occurs in most spiked grasses, and in many other plants; but these abortive flowers are very distinct from the pedicelled neutral floret of the Chloris. (I speak of the C. petræa). Neither is there in this plant, nor in the E. cruciata, any thing in the corolla resembling the concave, rigid, cartilaginous, and almost horny corolla of the Chloris; I have therefore removed them from that genus.

CHLORIS.

Flores unilaterales. *Calyx* bivalvis, 2—6 florus; flore altero sessili, hermaphrodito, altero pedicellato, masculo.

Flowers on one side of the rachis. *Calyx* 2—6 flowered; one flower sessile, hermaphrodite, one pedicelled, male.

Herm. *Corolla* bivalvis; valvula exteriore coriacea. *Arista* terminalis. *Stamina* 3. *Styli* 2. *Semen* 1.

Masc. *Corolla* uni s. bivalvis, aristata. *Stamina* 3, s. 0.

Herm. *Corolla* 2 valved; the exterior valve coriaceous. *Awn* terminal. *Stamens* 3 *Styles* 2. *Seed* 1.

Masc. *Corolla* 1—2 valved, awned. *Stamens* 3 or 0.

1. PETRÆA.

C. spicis quaternis, (5-6-nis), strictis, erectis; flosculis imbricatis, subglabris, muticis; valvula exteriore calycis aristata; culmo compresso. Sp. pl. 4. p. 924.

Spikes by fours, digitate, straight, erect; flowers imbricate, glabrous, unawned; the exterior valve of the calyx awned; stem compressed.

Mich. 1. p. 58. Pursh, 1. p. 87.

Root perennial. *Stem* prostrate, branching, taking root at the joints, geniculate, compressed, ascending. *Leaves* about 3 inches long, obtuse, glabrous, somewhat glaucous, slightly channelled, with the margins and keel serrulate; sheaths longer than the joints, compressed, with the back serrulate, contracted at the throat. *Calyx* 2 valved, 2 flowered, hermaphrodite and neuter; exterior valve obovate, emarginate, awned with a scabrous midrib; interior smaller, keeled, very acute. *Corolla* of the *hermaphrodite flower* 2 valved, much larger than the calyx; the exterior valve concave, rigid, cartilaginous, dark brown, ciliate along the margins, the midrib terminating in a *short awn;* the interior smaller, membranous, the margins reflexed, both slightly emarginate; the *neutral floret* on a short thick pedicel, one valved, concave, obtuse, pale brown, nerved along the margin.

Grows in soils exposed to the influence of salt water.

Flowers June—August. *Sea-side Chloris.*

ROTTBOELLA.

Rachis articulata, teretiuscula, in pluribus filiformis. *Calyx* ovato-lan-

Rachis jointed, somewhat terete, commonly filiform. *Calyx* ovateceolatus, planus, uni vel bivalvis, *uni vel biflorus. Flosculi* alterni in rachi flexuosa.

lanceolate, flat, 1 or 2 valved, 1 or 2 flowered. *Florets* alternate on a flexuous rachis.

1. Dimidiata ?

R. spica compressa, lineari, uni-lateriflora; calyce bivalvi, bifloro, flore exteriore masculo, interiore hermaphrodito. E.

Spike compressed, linear, flowering on one side; calyx two valved, two flowered, the exterior floret male, the interior hermaphrodite.

Mich. 1. p 60.
Ischæmum secundatum ? Walt. p. 249.

Root perennial. *Stems* creeping, slightly compressed, branching, glabrous, breaking easily at the joints. *Leaves* perennial, 4—10 inches long, 2—3 lines wide, obtuse, very glabrous, compressed, serrulate near the summit, frequently opposite; sheath compressed, smooth, contracted at the throat; stipules bearded. *Spikes* terminal, flat, flowering on one side; flowers alternate, sitting in depressions in the margins of the rachis. Valves of the *calyx* unequal, the exterior much shorter than the corolla, rounded: the interior lanceolate, concave, as long as the corolla. Valves of the *corolla* lanceolate, acute, the interior a little shorter; both florets similar. *Nectaries* 2, oblong, obtuse, shorter than the germ. *Anthers* and *stigmas* yellowish. *Seed* oval, flat on one side.

Grows near salt water in every soil.

Flowers through the whole summer.

As the European botanists who have it in their power to ascertain the fact still consider this plant as the R. dimidata of Linnæus, I have retained the name adding the note of doubt, and altered the specific character to suit our plant; but it has always appeared to me more nearly allied to R. compressa. The figure in La Marck's Illustrations, t. 43. f. 1. b. for R. compressa resembles our plant very strongly.

ELYMUS.

Calyx lateralis, bivalvis, aggregatus, multiflorus.

Calyx lateral, 2 valved, aggregate, many flowered.

1. Virginicus.

E. spica erecta, spiculis trifloris, aristatis, glabris, geminatis; calycibus lanceolatis nervosis spiculas æquantibus. Willd. Enum. 131.

Spike erect, spikelets 3 flowered, awned, glabrous, by pairs; calyx lanceolate, nerved, as long as the spikes.

Sp. pl. 1. p. 469.
Mich. 1. p. 65.
E. Carolinianus, Walt. p. 82.
Pursh, 1. p. 89.

Root perennial. *Stem* 2—3 feet high, erect columnar, glabrous. *Leaves* 8—12 inches long, 2—3 lines wide, acute, scabrous; sheaths glabrous; stipules very short or none. *Calyx*, 2 valves to each spike of florets, somewhat lateral, so that that the calyxes form a sort of *involucrum* around the inclosed spikes; valves lanceolate, thick, flexuous, deeply striate, terminating in an awn about their own length. *Corolla* 2 valved; the exterior lanceolate, concave, awned; the interior lanceolate, obtuse, serrulate, as long as the exterior valve excluding the awn. The *awn* of the exterior floret longer than the awn of the calyx; the other gradually diminishing in length.

My specimens have generally 4 perfect florets besides 1 or 2 abortive ones on each spike.

Grows generally in dry soils. At the Sister's Ferry, Savannah river, on its margin.

Flowers June—August.

2. Striatus.

E. spica erecta, spiculis bifloris, aristatis, hispidis, geminatis; calycibus linearibus, nervosis, aristatis, spiculis fere superantibus; foliis vaginisque glabris. Willd. Enum. 131.

Spike erect; spikelets 2 flowered, awned, hispid, by pairs; calyx linear, nerved, awned, rather longer than the spikes; leaves and sheaths glabrous.

Sp. pl. 1. p. 470.
Pursh, 1. p. 89.

Grows in the north-western districts of Georgia. Muhl.

Fowers July—September.

3. **Europæus.**

E. spica erecta, spiculis bifloris aristatis, involucro lævi æqualibus. Persoon, 1. p. 107.	Spike erect; spikelets 2 flowered, awned, as long as the smooth involucrum.

Sp. pl. 1. p. 470.
Muhl. Cat. p. 14.

Very similar to the E. Virginicus, but differing by its smooth involucrum. Linn.

4. **Hystrix.**

E. spica erecta; spiculis patentibus involucro destitutis. Sp. pl. 1. p. 471.	Spike erect; spikelets expanding, destitute of an involucrum.

Muhl. Cat. p. 14.

Spike composed of two spikelets at each tooth of the *rachis.* *Spikelets* composed of 4 flowers with long awns. *Involucrum* 0, but in its place 2 callous bodies. Linn.

I have had no opportunity of comparing my specimens with others of this species from the eastern hemisphere; in ours the spikes are erect, generally 3 flowered, and the corolla very smooth.

Grows in the mountains of Carolina, and in the country of the Creeks, Dr. Baldwin.

Flowers June—August.

TRIGYNIA.

PROSERPINACA.

Calyx 3-partitus, superus.	*Calyx* 3-parted, superior.
Corolla 0. *Nut* 3-locularis.	*Corolla* 0. *Nut* 3-called.

1. **Palustris.**

P. foliis superioribus lanceolatis, serratis, infe-	Upper leaves lanceolate, serrate, the lower

rioribus pectinatis; nucis angulis acutis. E.	pectinate; angles of the nut acute.

Sp. pl. p. 492. Walt. p. 84. Mich. p. 76. *Var. a.* Pursh, 1. p. 92.

Root fibrous, perennial? *Stem* herbaceous, procumbent, assurgent, branching, glabrous, columnar, generally coloured, (reddish or purple.) *Leaves* alternate, sessile; the lower frequently submersed, pectinate; the middle incised; the upper acute, doubly serrate; all glabrous. *Flowers* 1—3, axillary, nearly sessile. *Calyx* 3 leaved? leaves lanceolate, expanding, persistent. *Filaments* nearly the length of the calyx, affixed to the summit of the germ, opposite to the leaves of the calyx, alternating with the stigmas. *Anthers* erect, at first sessile. *Germ* inferior, 3 angled, angles very sharp, almost winged. *Styles* 0. *Stigmas* 3, glandular, bright purple, expanding. Fruit a *Nut* 3 celled, not opening. *Seed* one in each cell, oblong.

Grows in ditches and shallow waters.

Flowers April.

2. PECTINATA. LA MARCK.

P. foliis omnibus pectinatis, nuce majore angulis obtusis. E.	All the leaves pectinate. Nut larger with obtuse angles.

La Marck, Illust. 1. p. 214. Pursh 1. p. 92.

P. palustris, *var. b.* Mich. 1. p. 76.

Root perennial? *Stem* herbaceous, erect, sometimes procumbent, 2—8 inches high, rarely branching, angled near the summit. *Leaves* alternate, glabrous, pectinate; segments linear, acute, expanding. *Flowers* 1—3, axillary, nearly sessile. *Stigmas* white. *Nut* 3 angled, larger than in the preceding species with the angles obtuse.

Grows in shallow water, common around pine-barren ponds in Chatham county, Georgia.

Flowers May—April.

POLYCARPON.

Calyx 5---phyllus. *Petala* 5, minima, ovata. *Capsula* 1---locularis, trivalvis.	*Calyx* 5 leaved. *Petals* 5, very small, ovate. Capsule 1--celled, 3 valved.

1. TETRAPHYLLUM.

Sp. pl. 1. p. 490.

Root somewhat fusiform, annual? *Stem* 3—6 inches high, ascending or erect, much branched, glabrous, striate, knotted. *Leaves* opposite and by fours, obovate, obtuse, entire, glabrous, narrowed at base, 4—6 lines long, 2—3 wide. *Stipules* 2—4 or more at each joint, membranous, ovate lanceolate, acuminate. *Flowers* in corymbose panicles terminal and lateral; panicles dichotomous with a flower in each division; peduncles 1—2 lines long. *Calyx* persistent, leaves acuminate, the keel green, margins membranous; the two exterior leaves a little shorter. *Petals* three or four times shorter than the calyx, emarginate, white, persistent. *Filaments* 3 longer than the corolla. *Anthers* nearly globose, yellow. *Germ* uperior, slightly 3 angled. *Style* one? persistent, 3 cleft *Stigmas* simple. *Capsule* ovate, one celled. *Seeds* many, 6—10, nearly oval, attached by their bases to the margin of the valve.

I have never seen a flower with three distinct styles.

Grows around Charleston abundantly, and was probably introduced from Spain or Portugal.

Flowers May—June

For *P. uniflorum* of Walter, see Arenaria.

MOLLUGO.

Calyx 5-phyllus. *Corolla* 0. *Capsula* 3-locularis, 3-valvis.	*Calyx* 5 leaved. *Corolla* 0. *Capsule* 3 celled, 3 valved.

1. VERTICILLATA.

M. foliis verticillatis, cuneiformibus, acutis; caule subdiviso, decumbente; pedunculis unifloris. Sp. pl. 1. p. 492.	Leaves verticillate, wedge-shaped, acute; stem somewhat divided, decumbent; peduncles 1 flowered.

Walt. p. 83. Mich. 1. p. 77. Pursh, 1. p. 92.

Root annual. *Stem* prostrate, branching, columnar, smooth. *Leaves* sessile, generally 6 in a whorl, glabrous. *Flowers* axillary, many around each whorl; peduncles half an inch long, slender. *Calyx* expanding, leaves lanceolate, acute, 3 nerved, with the margins membranous. *Filaments* 3, longer than the germ. *Anthers* nearly round. *Germ* ovate, superior. *Styles* 3, short. *Stigmas* recurved, plumose. *Capsule* ovate, 3 furrowed. *Seeds* many, somewhat kidney-shaped, attached in two rows to a central receptacle in each cell.

Very common in cultivated ground.

Flowers April—September.

LECHEA.

Calyx 3-phyllus. *Petala* 3. *Capsula* 3-locu-	*Calyx* 3 leaved. *Petals* 3. *Capsule* 3 celled,

laris; valvulis totidem interioribus. *Semen* 1 in loculo singulo.	3 valved, with as many interior valves. *Seed* 1 in each cell.

1. **VILLOSA.**

L. ramis radicalibus prostratis, villosis; foliis lanceolatis, mucronatis, pilosis; paniculis parvis, fasciculatis; caule erecto. E.	Radical branches prostrate, villous; leaves lanceolate, mucronate, hairy; panicles small, flowers clustered; stem erect.

L. major, Mich. 1. p. 76.
Walt. p. 83.

Root perennial. *Stem* herbaceous, 1—2 feet high, branching, slightly scabrous, surrounded at base by branches 2—4 inches long that trail on the ground; the radical and young stem branches covered with white hairs, which are somewhat effaced in the older ones. *Leaves* on the radical branches opposite, on the stem alternate, 5—8 lines long, 3—4 wide. *Flowers* in small clustered panicles at the termination of the branches. *Bracteas*, 2 leaves at the base of each calyx, linear-lanceolate, acute, hairy, persistent, reflexed during the time of flowering, afterwards appressed; these appear to have been mistaken by Walter and even Linnæus himself for the real calyx. Leaves of the *calyx* lanceolate, obtuse, hairy on the outside, persistent. *Petals* lanceolate, obtuse, flat, as long as, but narrower than the calyx, deciduous. *Filaments* 6—12, longer than the corolla. *Anthers* 2 celled, pink coloured. *Germ* superior, ovate. *Styles* 0. *Stigmas* 3? plumose. *Seed* 1 in each cell, oblong, angled at one side, acute at each end.

As the L. major of Linnæus is now understood to be the Cistus Canadensis and not a Lechea, I have avoided the name to prevent confusion. This plant, if kept from running to seed, would probably form a very neat edging for the beds of a flower garden; the foliage of the radical branches is very handsome during the winter, and the size of the plant is well suited to such a purpose.

Grows in sandy soils, common.
Flowers July—August.

2. **RACEMULOSA.** Mich.

L. caule erecto; foliis lineari-lanceolatis, ciliatis; paniculis elongatis; floribus solitariis, racemosis. E.	Stem erect; leaves linear lanceolate, ciliate; panicles elongate; flowers in racemes, solitary.

Mich. 1. p. 77. Pursh, 1. p. 91.
L. minor, Walt. p. 83.

Perennial. *Stem* erect, 18 inches high, when old glabrous. *Leaves* small, narrow. *Flowers* nearly sessile, forming racemes at the termination of each branch.

Grows in dry soils.

Flowers through the summer.

3. TENUIFOLIA. Mich.

L. sparse pilosa; foliis subulato-linearibus; panicula divaricata; floribus solitariis, racemosis	Somewhat hairy; leaves subulate linear; panicle divaricate; flowers solitary, in racemes.

Mich. 1. p. 77. Pursh, 1. p. 91.
L. juncifolia? Walt. p. 83.

Plant small, shrubby. *Stems* decumbent and assurgent, branches expanding. *Capsules* large when compared to the size of the plant and the other species of this genus. Mich. *Bracteas* wanting. Walt.

Grows on the sand hills near the Santee river. Mich.

Flowers May—July.

4. THYMIFOLIA. Mich.

L. cano-villosa; foliis linearibus, acutis; paniculis elongatis; floribus fasciculatis, lateralibus terminalibusque.	Hoary, villous; leaves linear, acute; panicle long; flowers in lateral and terminal clusters.

Mich. 1. p. 77. Pursh, 1. p. 91.

Stem erect, rather rough. *Panicle* erect. *Flowers* in leafy clusters, Mich.

Grows in arid soils.

Flowers May—August.

CLASS IV.

TETRANDRIA.

MONOGYNIA.

82. CEPHALANTHUS.
83. ALLIONIA.
84. HEDYOTIS
85. SPERMACOCE.
86. DIODIA
87. HOUSTONIA.
88 GALIUM.
89. RUBIA.
90. MITCHELLA.
91. CALLICARPA.
92. LYCIUM.
93. POLYPREMUM.
94. PLANTAGO.
95. CENTUNCULUS.
96. CENTAURELLA.
97. FRASERA.
98. SANGUISORBA.
99. CORNUS.
100. PTELEA.
101. LUDWIGIA.
102. AMMANNIA.

DIGYNIA.

103. HAMAMELIS.
104. CUSCUTA.

TETRAGYNIA.

105. SAGINA.
106. POTAMOGETON.

CEPHALANTHUS.

Calyx communis 0, proprius superus, infundibuliformis. *Receptaculum* globosum, pilosum. *Capsula* 4-locularis, non dehiscens. *Semina* solitaria.

Common *calyx* 0, proper superior, funnel-shaped. *Receptacle* globose, hairy. *Capsule* 4 celled, not opening. *Seed* solitary.

1. **Occidentalis.**

Sp. pl. 1. p. 543. Walt. p. 84. Mich. 1. p. 87. Pursh, 1. p. 114.

A shrub 6—15 feet high, the wood soft, spungy and pithy in the centre, the bark rather smooth. *Stem* jointed, much branched, the branches generally opposite. *Leaves* opposite and ternate, ovate-lanceolate, slightly acuminate, very entire, the upper surface glabrous, shining, the veins on the under surface pubescent, 4—5 inches long, 2—2½ wide; petioles half an inch long, pubescent, slightly winged. *Flowers* axillary and terminal; peduncles (common) 2—3 inches long, pubescent. *Calyx* (proper) 1 leaved, angled, superior, 4 cleft, the segments obtuse. *Corolla* 1 petalled, tubular, 4 times as long as the calyx, hairy within, white, the border 4 cleft, segments obtuse.

Filaments 4, very short, attached to the tube of the corolla at the base of each fissure. *Anthers* oblong, sagittate, pale brown. *Germ* angled. *Style* filiform, twice as long as the corolla. *Stigma* capitate. *Capsule* angled, inversely pyramidal, 2? celled. *Receptacle* globose, very hairy.

Grows in swamps, ponds and stagnant waters.

Flowers July. *Button-wood.*

The inner bark of the root is an agreeable bitter, and frequently used as a remedy in obstinate coughs.

ALLIONIA.

Calyx communis (involucrum) oblongus, simplex triflorus, proprius obsoletus, superus. *Corollulæ* irregulares. *Receptaculum* nudum.	Common *calyx* oblong, simple, 3 flowered; proper calyx obsolete, superior. *Corolla* irregular. *Receptacle* naked.
1. ALBIDA. Walt.	
A. foliis oppositis, oblongo-lanceolatis, subscabris; pedunculis oppositis, solitariis fasciculatisque; involucro quinquefido. E.	Leaves opposite, oblong lanceolate, somewhat scabrous; peduncles opposite, solitary and clustered; involucrum 5 cleft.

Walt. p. 84. Pursh, 1. p. 97.

Root annual? *Stem* erect, 4 angled, furrowed, sprinkled with a glandular pubescence, branches opposite. *Leaves* oblong, irregular, lanceolate, ovate, sometimes slightly fiddle-shaped, scabrous near the margins; common peduncles axillary, the lower ones generally solitary, the upper in small clusters, perhaps becoming solitary by the extension of the stem. *Involucrum* at first deeply 5 cleft, hairy, ciliate, the incisions? diminishing with age. *Corolla* longer than the involucrum. *Stamens* twice as long as the corolla. *Seed* naked, oblong, 5—6 angled, almost hispid.

This with the other plants in North America heretofore referred to Allionia are probably species of Calymema.

Grows near Columbia, South-Carolina. Mr. Herbemont.

Flowers in the spring.

HEDYOTIS.

Corolla 1 petala, infundibuliformis. *Capsula* 2-	*Corolla* 1 petalled, funnel-shaped. *Capsule* 2

locularis, polysperma, infera.	celled, many seeded, inferior.

1. GLOMERATA.

H. foliis lanceolatis, basi attenuatis, pubescentibus; floribus in capitulis, subsessilibus, axillaribus terminalibusque.	Leaves lanceolate, tapering at base, pubescent; flowers in clusters, sessile, axillary and terminal.

H. auricularia, Walt. p. 85.
Oldenlandia glomerata, Mich. 1. p. 83. Pursh, 1. p. 102.

Root perennial, somewhat stoloniferous. *Stem* procumbent assurgent, 12—18 inches long, columnar, pubescent, somewhat branched. *Leaves* opposite, entire, sessile, connected at base by stipules which have two long, subulate teeth and sometimes three short ones alternating with them. *Flowers* in clusters forming whorls. *Bracteas* 1—3 at the base of each calyx, lacerate. *Calyx* 1 leaved, superior, persistent, 4 parted, almost hispid. *Corolla* 1 petalled, deciduous, white, shorter than the calyx; tube very short; border 4 cleft, *Filaments* 4, very short, inserted into the tube of the corolla. *Anthers* nearly globose. *Germs* compressed, hispid. *Style* 0. *Stigma* sessile, thick. *Capsule* nearly globose, surrounded near the summit by the permanent opening across the dissepiment. *Seeds* many in each cell, three angled, blackish, attached to a central receptacle.

Very near to H. serpylloides of La Marck. This plant appears to belong to the Hedyotis of Linnæus where Walter originally placed it, but I can scarcely discover any distinction between this genus and Oldenlandia sufficiently strong to separate them. La Marck has united them.

Grows in damp soils, common.
Flowers June—October.

SPERMACOCE.

Corolla 1-petala, infundibuliformis. *Semina* 2, bidentata.	*Corolla* 1 petalled, funnel-shaped. *Seed* 2, two toothed.

1. TENUIOR.

S. glabra, foliis lanceotis; staminibus inclusis; floribus verticillatis; seminibus hirtis. Sp. pl. 1 p. 568.	Glabrous; leaves lanceolate; stamens included; flowers verticillate; seeds hirsute.

Pursh, 1. p. 105.

Swartz remarks, that this plant varies, with the stem glabrous and pubescent, straight or bent, and with flowers in whorls or nearly solitary. Swartz Obs. 43.

Stem erect. *Leaves* scabrous on the upper surface. Pursh.

Grows in dry gravelly situations, from Virginia to Carolina. Pursh.

Flowers June—August.

2. DIODINA. Mich.

S. hirsuta, culmo tereti; foliis lineari-lanceolatis; floribus axillaribus, sessilibus, staminibus inclusis. E.	Hirsute; stem terete; leaves linear-lanceolate; flowers axillary, sessile; stamens shorter than the corolla.

Mich. 1. p. 82. Pursh, 1. p. 105 ?
Diodia teres ? Walt. p. 87. Very near S villosa.

Root aunual ? *Stem* procumbent, columnar, sometimes branching. *Leaves* sessile, somewhat hairy, finely but sharply serrulate; a short sheath embracing the base of the leaves, crowned with long setaceous stipules. *Flowers* opposite, sometimes solitary, frequently clustered. *Calyx* 4 leaved. *Corolla* longer than the calyx, hairy, border 4 parted. *Filaments* 4, shorter than the corolla. *Anthers* oblong, incumbent. *Germ* inferior. *Style* as long as the stamens. *Stigma* globose. *Capsules* ? 2 connate, hispid, crowned with the calyx *Seed* one in each capsule, oblong, flattened on the inside, with the margins somewhat inflexed.

Grows in dry, poor, sandy soils. Common.

Flowers July—September.

3. INVOLUCRATA. Pursh.

S. hirsuta, foliis ovato lanceolatis acuminatis; stipulis multisetis; capitulis terminalibus, involucratis; staminibus exertis.	Hirsute; leaves ovate-lanceolate, acuminate; stipules many bristled; heads terminal, surrounded with an involucrum; stamens longer than the corolla.

Pursh, 1. p. 105.

Stem about a foot high, very hispid. *Leaves* broad and somewhat oblique. *Flowers* white, with a very long tube. Pursh.

Collected in Carolina by Mr. Fraser.

Flowers

DIODIA.

Corolla 1-petala, infundibuliformis. *Capsula* 2-locularis, 2-sperma.	*Corolla* 1 petalled, funnel-shaped. *Capsule* 2 celled. *Seed* 1 in each cell.

1. VIRGINICA.

D. glabra; caulibus procumbentibus, teretiusculis; foliis lanceolatis; corollis intus glabriusculis; fructibus oblongis, glabris. Pursh, 1. p. 105.	Glabrous; stem procumbent, nearly terete; leaves lanceolate; corolla glabrous within; fruit oblong, glabrous.

Sp. pl. 1. p. 580.

Stem smooth, purple, slender. *Leaves* narrow, lanceolate. *Flowers* white.

Grows in damp soils from Virginia to Carolina. Pursh. Columbia. Mr. Herbemont.

Flowers through the summer.

2. TETRAGONA. Walt.

D. caule procumbente, subangulato, glabriusculo; foliis cordato-ovatis, stipulis subulatis. E.	Stem procumbent, somewhat angled, nearly glabrous; leaves cordate ovate; stipules subulate.

Walt. p. 87.

D. Virginica, Mich. 1. p. 81.

Root perennial. *Stem* somewhat angled, prostrate, creeping, glabrous, succulent, hairy at the joints. *Leaves* oval, sometimes ovate, opposite, sessile, connected by stipules; stipules crowned with subulate, ciliate, segments. *Flowers* axillary generally solitary. *Calyx* 2 leaved, leaves subulate, persistent. *Corolla* white, hairy within. *Fruit* oval, somewhat angled, composed of two connate capsules flat on the inner side, and containing one seed each.

Grows in damp soils, very common.

Flowers May—October.

This genus is perhaps too closely allied to Spermacoce to be separated from it.

3. **Hirsuta.** Pursh.

D. undique hirsutissima; caule procumbente; foliis lanceolatis; stipulis subsetaceis. E.	Every part hirsute; stem procumbent; leaves lanceolate; stipules nearly setaceous.

Pursh, 1. p. 106.
D. hispida, Muhl. Cat.

Very similar to the preceding species, perhaps only a variety. It differs however in a stem generally more slender, leaves narrower, exactly lanceolate, segments of the stipules more setaceous, and the whole plant remarkably hispid.

Grows in a damp soil two miles from Beaufort on the road to the ferry. Near Savannah. Pursh.

Flowers September—October and perhaps earlier.

HOUSTONIA.

Calyx 4-dentatus. *Corolla* 1-petala, infundibuliformis. *Capsula* 2-locularis, semi-superus.	*Calyx* 4 toothed. *Corolla* 1 petalled, funnelshaped. *Capsule* 2 celled, girt around the centre by the calyx.

1. **Patens.** E.

H. parvula, caule dichotomo, patente; floribus solitariis, terminalibus. E.	Plant very small; stem expanding, dichotomous; flowers solitary, terminal.

H. Linnæi *var. b.* Mich. 1. p. 85.
H. cœrulea *var. minor*, Pursh, 1. p. 106.

Root annual. *Stem* 1—2 inches high, erect, square, smooth, with angles scabrous, much divided, branches expanding equally, and forming a beautifully dichotomous stem. *Leaves* opposite, sessile, spathulate-lanceolate, finely ciliate, connected by stipules. *Flowers* sometimes axillary; peduncles square, armed in the middle with two scales, nodding before the flower expands. *Calyx* rather inferior, segments linear, erect, persistent. *Corolla* longer than the calyx, purple, sometimes white, border expanding, 4 cleft. *Filaments* 4, very short, inserted into the tube of the corolla. *Anthers* oblong, 2 celled, yellow. *Germ* ob-cordate. *Style* much shorter than the tube of the corolla. *Stigmas* 2, thickened, acute. *Capsule* compressed, furrowed, opening transversely.

Grows generally in the driest soils, but sometimes found in damp places.

Flowers February—March.

2. CŒRULEA.

r H. erecta; caule gracili, subramoso; pedunculis solitariis, axillaribus, elongatis, unifloris. E.	Erect; stem slender, somewhat branched; peduncles solitary, axillary, very long, single flowered.

Sp. pl 1. p. 583. Pursh, 1 p. 106.
H. Linnæi, Mich. 1. p. 84.
Anonymos erect. Walt. p. 86.

Root perennial. *Stem* 4—6 inches high, erect, slender, square; branches few, long, slender, appressed. Root *leaves* spathulate; stem *leaves* lanceolate. *Flowers* large for the size of the plant.

Grows along the margins of swamps and rivulets. Common in the middle country of Carolina.

Flowers May—August.

It is not easy to point out a mark of specific difference between this and the preceding species, yet many circumstances produce a conviction that they are really distinct. The H. patens grows plentifully in the driest pastures along the sea-coast, rarely exceeding two inches in height, with its stem always dichotomous and expanding, flowering in February and March. It is seldom seen after the first of April. When ponds occur in dry pastures it is sometimes found on their margins, but without any change of habit or appearance. The H. cœrulea grows in bogs and swamps in the middle country, is always slender and erect; it does not flower until May or June, and continues in bloom throughout the summer. Its corolla is at least three times as large as that of the H patens, and the segments of its calyx and stem leaves proportionally more slender.

3. LONGIFOLIA. Willd.

H. foliis angusto-lanceolatis, utrinque attenuatis; floribus corymbosis.	Leaves narrow-lanceolate, tapering at each extremity; flowers in corymbs.

Sp. pl. 1. p. 583.
H. angustifolia, Mich. 1. p. 84. Pursh, 1. p. 106.

Root perennial. *Stem* 8—14 inches high, square, glabrous, branched; branches near the extremity much divided, forming small corymbs. *Leaves* sessile, nearly an inch long, rather narrow. *Flowers* nearly sessile, frequently by threes. Segments of the *calyx* linear. *Corolla* 2 or 3 times longer than the calyx.

Grows in the middle and upper country in rich and shaded lands.

Flowers June—August.

4. PURPUREA.

H. foliis ovato-lanceolatis, basi obtusis; floribus terminalibus, corymbosis.	Leaves ovate lanceolate, obtuse at base; flowers in corymbs.

Sp. pl. 1. p. 585. Pursh, 1. p. 167.
H. varians, Mich. 1. p. 86.
Hedyotis umbellata? Walt. p. 85.

Root perennial. *Stem* erect, branching, glabrous, with angles ciliate, hairy at the joints. *Leaves* sessile, ovate, broad, and in general abruptly rounded at base, 3-nerved, nerves and margins pubescent. *Flowers* in terminal corymbs. *Calyx* slightly pubescent; segments subulate, ciliate. *Corolla* purple.

Grows in the upper and middle country of Carolina and Georgia in similar situations with the last.

Flowers June—August.

5. SERPYLLIFOLIA. Mich.

H. procumbens, cæspitosa; foliis spathulatis, obtusis; pedunculis terminalibus, solitariis, unifloris.	Procumbent, cespitose; leaves spathulate, obtuse; peduncles terminal, solitary, single flowered.

Mich. 1. p. 85.

Root perennial. *Stems* many from the same root, filiform, sometimes creeping. *Leaves* spathulate, nearly petiolate. *Peduncles* very long. Michaux.

Flowers May.

6. ROTUNDIFOLIA. Mich.

H. repens; foliis rotundato-ovatis, abrupte petiolatis; pedunculis axillaribus, solitariis, unifloris.	Creeping; leaves ovate, nearly round, abruptly narrowed at base; peduncles axillary, single flowered.

Mich. 1. p. 85. Pursh 1. p. 106.
Anon. procumbens, Walt. p. 86.

Root perennial. *Stem* prostrate, taking root at the joints, glabrous. *Leaves* somewhat glabrous, thinly ciliate. *Peduncles* 3—8 lines long, erect while in flower, afterwards nodding. *Corolla* hypocrateriform, white; tube three or four times as long as the calyx, hairy within;

border 4 cleft, (sometimes 3 or 5); segments lanceolate. *Anthers* white. *Germ* superior, ovate. *Style* longer than the tube of the corolla, 2 cleft. *Stigmas* simple, acute, reflexed. *Capsule* emarginate.

Grows in dry soils in the vicinity of the ocean.

Flowers all the year whenever the weather is mild.

GALIUM.

Corolla 1-petala, plana. *Semina* 2, subrotunda.	*Corolla* 1 petalled, flat. *Seeds* 2, nearly round.
* *Fructu glabro.*	* *Fruit smooth.*

1. TRIFIDUM.

G. caule procumbente, scabro; foliis subquaternis, ovalibus, basi cuneatis; corollis plerumque trifidis.	Stem procumbent, scabrous; leaves generally by fours, oval, wedge-shaped at base; corolla generally 3 cleft.

Sp. pl. 1. p. 585. Walt. p. 86. Pursh, 1. p. 103.
G. Claytoni ? Mich. 1. p. 78.

Root perennial ? *Stem* procumbent and assurgent, much branched, square, with the angles retrorsely aculeate. *Leaves* 3—6 in a whorl, oval, obtuse, the upper ones linear, with the margin and midrib retrorsely aculeate. *Flowers* axillary, 1—3 to each whorl. *Corolla* white, tube very short; border very frequently 3 parted; segments somewhat acute. *Filaments* 4, (when the corolla is 3 cleft, only 3,) half the length of the corolla. *Anthers* erect, 2 celled, greenish yellow. *Germ* inferior, twin. *Style* short, 2 cleft, surrounded at base with a 2 cleft gland. *Stigmas* capitate. *Fruit* purple.

Leaves generally 6 in a whorl on the old stalks but 3, 4, 5 on the younger branches.

Grows in damp and wet soils.

Flowers April—July.

2. LATIFOLIUM. Mich.

G. caule erecto, lævi; foliis quaternis, ovalibus, acutis, membranaceis, margine hispidulis; pedunculis divaricatis, laxe multifloris. Mich. 1. p. 79.	Stem erect, smooth; leaves by fours, oval, acute, membranous, the margins somewhat hispid; peduncles divaricate, loosely many flowered.

Pursh, 1. p. 102.

Leaves narrowed at base, flat, 3 nerved, 1—2 inches long, whorls distant. *Flowers* purple. *Peduncles* opposite. *Fruit* large, one seed frequently abortive. Mich.

Grows in the mountains of Carolina.

Flowers June—July.

3. UNIFLORUM. Mich.

G. caule assurgente, lævi; foliis subquaternis, linearibus, acutis, revolutis; pedunculis plerumque solitariis, unifloris. E.	Stem assurgent, smooth; leaves generally by fours, linear, acute, revolute; peduncles generally solitary, 1 flowered.

Mich. 1. p. 79. Pursh 1. p. 102.

Root creeping, perennial. *Stem* about a foot high, square, smooth, sparingly branched. *Leaves* generally by fours, linear, lanceolate, somewhat scabrous, slightly ciliate. *Peduncles* sometimes opposite, and sometimes, (though rarely) 2 flowered, half as long as the leaves, and generally furnished near the middle with a whorl of small leaflets. *Corolla* nearly white. *Fruit* dark purple.

Grows in rich, shaded, high grounds, 5 miles from Charleston.

Flowers May—July.

** *Fructu scabro.*	** *Fruit scabrous.*

4. HISPIDULUM. Mich.

G. caule procumbente, pubescente, ramosissimo; foliis quaternis, lanceolatis, punctatis, scabris.	Stem procumbent, pubescent, much branched; leaves by fours, lanceolate, dotted, scabrous.

Mich. 1. p 79.

G. hispidum, Pursh, 1. p. 104.

Root creeping, somewhat jointed, perennial, saffron coloured. *Stem* square, rough, pubescent, or rather sprinkled with short rigid hairs. *Leaves* somewhat hispid, with similar hair *Flowers* axillary and terminal; peduncles longer than the leaves, sometimes one flowered, frequently compound. *Corolla* white, hairy; segments acuminate. *Anthers* yellow. *Fruit* purple, roughened with short rigid hairs.

Grows in dry, sandy soils, very abundantly, particularly near the ocean.

Flowers May—October.

I have found in shaded places near Charleston a variety with the stem smooth, except the young branches, whish were retrorsely ciliate;

the leaves a little hairy along the revolute margins; the fruit very smooth to the naked eye, but shewing a few hairs under a lens; but in habit, and all other characters resembling this species too much to be separated. This is probably the G. Bermudense, Walt.

*** *Fructu hispido.*

*** *Fruit hispid.*

5. BERMUDIANUM.

G. foliis quaternis, ovatis, obtusis; ramis ramosissimis; floribus subpaniculatis.

Leaves by fours, ovate, obtuse; branches very much divided; flowers clustered, somewhat paniculate.

Sp. pl. 1. p. 596. Pursh, 1. p. 104.

Root perennial. *Stem* erect, square, smooth. Young *leaves* nearly linear; old ones ovate, 3 nerved, rather obtuse. *Peduncles* towards the extremities of the branches opposite, and so much compounded as to give the flowers the appearance of a crowded panicle. Segments of the *corolla* lanceolate. *Fruit* hispid, with hooked hairs.

If this be the real G. Bermudense of Linnæus, the leaves should be described as ovate and 3 nerved, instead of linear.

I have inserted this plant on the authority of Dr. Muhlenberg. My specimens are from Pennsylvania.

6. PILOSUM.

G. caule erecto vel procumbente; foliis quaternis, ovalibus, pilosis; pedunculis dichotomis; corollis purpureis. E.

Stem erect or procumbent; leaves by fours, oval, hairy; peduncles dichotomous; corolla purple.

Sp. pl. 1. p. 599. Pursh, 1. p. 104.
G. puncticulosum, Mich. 1. p.
G. purpureum, Walt. p. 87.

Root perennial. *Stem* square, scabrous; angles hairy; branches axillary, alternate, expanding. *Leaves* sometimes mucronate, very entire, ciliate, sprinkled with short hairs, the upper surface roughened by small vessels. *Flowers* axillary, opposite and terminal, solitary and by threes, generally dichotomous. Segments of the *corolla* acute. *Anthers* yellow. *Stigmas* capitate. *Fruit* hispid with white, hooked (hamose), hairs.

Grows in shady places, generally in dry soils.
Flowers May—September.

7. **Triflorum.** Mich.

G. caulibus procumbentibus, glabriusculis; foliis ovali lanceolatis, mucronatis, glabris; ramulis floriferis elongatis, apice trifloris; fructibus parvis, hispidis. Mich. 1. p. 80.	Stems procumbent, glabrous; leaves oval lanceolate, mucronate, glabrous; flowering branches long, 3 flowered at the summit; fruit small, hispid.

Pursh, 1. p. 104.

Stem slightly hispid just beneath each whorl. *Leaves* 4—6, smooth, under a lens shewing some hairs along the margins. *Flowers* white, very small, on short peduncles.

Grows in shaded, rocky places, from Pennsylvania to Carolina. Pursh.

Flowers July.

I have not seen this species in the Southern States. Michaux speaks of it as a Canadian plant. For my specimens I am indebted to Dr. Bigelow, of Boston.

8. **Cuspidatum.** Muhl. Cat.

G. caule prostrato, glabro; foliis subsenis, lanceolatis, acuminatis, pauce ciliatis; pedunculis trifidis; corollæ laciniis acuminatis. E.	Stem prostrate, glabrous; leaves by sixes, lanceolate, acuminate, slightly ciliate; peduncles trifid; segments of the corolla acuminate.

Root creeping? perennial. *Stem* weak, generally prostrate, rather smooth, the angles sparingly aculeate. *Leaves* much attenuated at base, and very acutely pointed at the summit, sprinkled with hairs; the peduncles generally trichotomous at point, afterwards dichotomous. *Corolla* nearly white. *Fruit* villous, thickly clothed with white hooked hairs.

Grows in damp, shaded soils.

Flowers June—August.

9. **Circæzans.** Mich.

G. caule erecto, glabro; foliis quaternis, ovatis; pedunculis brevibus, di-	Stem erect, glabrous; leaves by fours, ovate; peduncles short, divari-

varicatis ; floribus alternis ; fructu nutante. E.	cate ; flowers alternate ; fruit nodding.

Root perennial. *Stem* erect, sparingly branched. very slightly scabrous. *Leaves* by fours, ovate, obtuse, 3 nerved, ciliate ; branches expanding *Flowers* generally solitary. *Peduncles* very short. *Fruit* when nearly mature nodding, hispid, with hooked hairs.

Grows in shaded and moderately rich soils, five miles from Savannah, on the Augusta road ; also on Charleston neck.

Flowers June—August.

RUBIA.

Corolla campanulata. *Baccæ* 2, monospermæ.	*Corolla* campanulate. *Berries* 2, single seeded.

Brownei. Mich.

R. hispida ; foliis quaternis, ovalibus ; pedunculis solitariis, unifloris ; caule decumbente.	Hispid ; leaves by fours, oval ; peduncles solitary, single flowered ; stem decumbent.

Mich. 1. p. 81. Pursh, 1. p. 102.
R. peregrina, Walt. p. 86.

Flowers yellow. *Berries* purple, smooth. Pursh.

This is still to me, as to Pursh, an obscure plant. The botanists who have attempted to point it out to me, have all shewn me different species of Galium, generally the G. trifidum, or pilosum.

Grows in shady woods, Carolina to Florida. Pursh.

MITCHELLA.

Corollæ 1 petalæ, superæ, binæ eidem germini. *Stigma* 4-fidum. *Bacca* didyma, 4 sperma.	*Corollas* 1 petalled. superior, in pairs upon the same germ. *Stigma* 4 cleft. *Berry* twin, 4 seeded.

1. **Repens.**

Sp. pl. 1. p. 617. Walt. p. 85. Mich. 1. p. 86. Pursh, 1. p. 101.

A small tender prostrate evergreen. *Stem* creeping among the dried leaves of trees, in rich moist soils, taking root at the joints, branching, glabrous. *Leaves* ovate, sometimes nearly cordate, entire, glabrous, dark green variegated with milky veins. *Peduncles* axillary, solitary, very short, bearing a double germ. *Corolla* white, very hairy on the inside, very fragrant. *Berries* red, eatable but insipid.

Grows in rich moist soils, under the shade of trees.

Flowers November—April. *Partridge Berry.*

An infusion of the stems and leaves is a popular remedy in dysury. The diuretic effect is by no means great.

CALLICARPA.

Calyx 4-fidus. *Corolla* 4-fida. *Bacca* 4-sperma.	*Calyx* 4 cleft. *Corolla* 4 cleft. *Berry* 4 seeded.

1. **Americana.**

C. foliis serratis, subtus tomentosis. Sp. pl. 1. p. 619.	Leaves serrate, tomentose underneath.

A shrub 3—4 feet high, bearing many stems of equal height; the old wood glabrous, the young branches tomentose, the hair which clothe them and every part of the plant is collected in star-like fascicles. *Leaves* opposite, lanceolate, obtusely dentate, rugose, on the upper surface somewhat scabrous and hairy, on the under tomentose. *Petioles* about an inch long, sprinkled as well as the stem with resinous atoms. *Flowers* in short axillary clusters (cymes). *Peduncles* very short, dichotomous. *Calyx* small, persistent, tomentose, 4 toothed, teeth small, erect. *Corolla* 1 petalled, twice as long as the calyx, purple; segments obtuse. *Filaments* longer than the corolla, inserted into its base. *Anthers* 2 celled, yellow. *Germ* superior, globose. *Style* longer than the stamens, thickened above. *Stigma* capitate, nearly 2 lobed. *Fruit* a juicy, purple, round berry, 4 celled, sprinkled when young with glandular atoms. The fruit eatable, sweet at first, but pungent and astringent afterwards.

Grows in light soils, very common.

Flowers May—July. *French Mulberry.*

LYCIUM.

Corolla tubulosa, fauce clausa filamentorum barba. *Bacca* 2-locularis, polysperma.	*Corolla* tubular, the throat closed with the beard of the filaments. *Berry* 2 celled, many seeded.

1. **Carolinianum.** Walt.

L. inerme; foliis fasciculatis, anguste cuneatis, carnosis; floribus quadrifidis, tetrandris. E.	Unarmed; leaves clustered, narrowly wedge-shaped, fleshy; flowers 4 cleft, tetrandrous.

Walt. p. 84. Mich. 1. p. 95. Pursh, 1. p. 97.

A shrub 3—5 feet high, with long, slender simple branches. *Leaves* sessile, in small clusters, glabrous, nearly linear, but manifestly wedge-shaped. *Flowers* solitary, axillary. *Peduncles* about half as long as the leaves. *Calyx* short, somewhat campanulate, 4 toothed. *Corolla* tubular, rather deeply 4 cleft, of a silver colour. *Stamens* as long as the corolla. *Berry* red.

I have never seen this plant in its native state, where it is said to be of very humble growth.

Found by Mr. Wm. Bartram, in the saline rushy marshes of Carolina.

Flowers nearly through the whole summer.

Johnny Bartram.

POLYPREMUM.

Calyx 4-phyllus. *Corolla* 4-fida, rotata, fauce barbata. *Stamina* inclusa. *Capsula* compressa, bilocularis.	*Calyx* 4 leaved. *Corolla* 4 cleft, rotate, with the throat bearded. *Stamens* included. *Capsule* compressed, 2 celled.

1. **Procumbens.**

Sp. pl. 1. p. 623. Walt. p. 85. Mich. 1. p. 82. Pursh, 1.p. 99.

Root perennial? somewhat fusiform, cespitose. *Stem* herbaceous, erect or procumbent, 6—12 inches high, nearly columnar, furrowed, the margins of the furrows sharply serrulate; towards the summit dichotomous. *Leaves* opposite, linear, sessile, finely serrulate, slightly decurrent, and connected at base by a membrane resembling a stipule. *Flowers* sessile, terminal and in the division of the branches. *Bracteæ?* 2 or 4 surrounding the base of the calyx, exactly similar to the leaves. *Calyx* one? leaved, persistent, 4 parted, segments subulate, acute, serrulate. *Corolla* tubular, white, as long as the calyx, the throat closed with hair; border 4 parted; segments oval. *Filaments* 4, inserted into the tube of the corolla, very short. *Anthers* 2 celled, yellow. *Germ* surrounded at base by the calyx, above free. *Style* slender, as long as the corolla. *Capsule* ovate, compressed, 2 furrowed, nearly acute, pointed by the persistent style. *Seeds* angular, attached to a central receptacle.

Grows in pastures, very common.

Flowers May—September.

PLANTAGO.

Calyx 4-fidus. *Corolla* 4-fida, limbo reflexo. *Stamina* longissima. *Capsula* 2 locularis, circumscissa.	*Calyx* 4 cleft. *Corolla* 4 cleft, with the border reflected. *Stamens* very long. *Capsule* 2 celled, circumscissed.

1. MAJOR.

P. foliis ovatis, glabris; scapo tereti; spica flosculis imbricatis. Sp. pl. 1. p. 641.	Leaves ovate, glabrous; scape columnar; spike with the flowers imbricate.

Pursh, 1. p. 98.

Root perennial. *Stem* 0. *Leaves* all radical, coarsely and remotely toothed, 5 nerved, with 2 obscure ones near the margin, slightly pubescent, abrubtly narrowed at base into a concave, nervose, pubescent petiole 4—5 inches long. *Scape* about a foot long, columnar, pubescent, axillary or interfoliaceous. *Bractea* a leaf, ovate, obtuse, glabrous, half as long as the calyx, at the base of each flower. *Calyx* persistent; segments lanceolate, obtuse, glabrous. *Corolla* persistent, tube as long as the calyx, a little ventricose; segments acute, expanding. *Filaments* twice as long as the corolla, into which they are inserted near the summit of the tube. *Anthers* incumbent, sagittate. *Germ* superior, oval. *Style* a little shorter than the stamens. *Stigma* simple. *Capsule* 2 celled, the upper half dropping off when the seeds are mature.

Grows in moist soils, preferring rich ones. Originally from Europe, now perfectly naturalized. Found by Dr. Macbride in the deep uncleared swamps along the Santee river.

Flowers through the summer.

2. VIRGINICA.

P. foliis lanceolatis, ovatis, pubescentibus, subdenticulatis; spicis floribus remotis; scapo tereti. Sp. pl. 1. p. 643.	Leaves lanceolate, ovate, pubescent, sparingly toothed; spike with flowers remote; scape columnar.

Mich. 1. p. 94. Pursh, 1. p. 98.
P. Caroliniana? Walt. p. 84.

Root annual? *Leaves* spathulate lanceolate, 5 nerved, 2 of them obscure, marginal. *Spikes* 1—4 inches long, flowers at first crowded, afterwards by the elongation of the scape distant. *Bractea* lanceolate, longer than the calyx. *Scape* hairy, almost hispid. *Corolla* grey. This species varies much in size, and the pubescence is generally hoary.

I suspect this plant to be the P. Caroliniana of Walter; and his Virginica, the interrupta of La Marck. Both species grow abundantly in the neighborhood of water, and this when young has its flowers very much crowded.

Grows in pastures and fields. Very common.

Flowers March—April.

3. LANCEOLATA.

P. foliis lanceolatis; spica subovata, nuda; scapo angulato. Sp. pl. 1. p. 643.	Leaves lanceolate; spike somewhat ovate, naked; scape angled.

Pursh, 1. p. 98.

Root perennial. *Leaves* 6—12 inches long, 1—1½ wide, tapering towards each extremity, 5 nerved, sparingly toothed, a little hairy, particularly along the nerves on the under surface. *Scape* 1—2 feet high, a little hairy; flowers in a very compact spike. *Bractea* ovate, abruptly acuminate, as long as the calyx.

Grows generally in light soils. Originally from Europe, now naturalized.

By the inhabitants of the Milanese this is considered as one of the most valuable plants, which enrich their meadows, and give such high reputation to the products of their dairies.

Pursh seems to suppose that this plant from its acuminate bracteas will be found distinct from the P. lanceolata of Europe. In the Southern States, however, it has every mark of an exotic plant, and is found only around settlements.

Grows in all soils which are not inundated. Appears to flourish even in our driest sands. Around Charleston and Savannah now common.

Flowers May—July, and occasionally through the summer.

4. INTERRUPTA. La Marck.

P. foliis lanceolatis, integerrimis, villosiusculis; spica longa, gracili, interrupta; floribus glabris.	Leaves lanceolate, entire, hairy; spike long, slender; flowers scattered, glabrous.

La Marck. Encyc. 5. p. 375. Pursh, 1. p. 99.
P. sparsiflora, Mich. 1. p. 94.
P. Virginica? Walt. p. 85.
P. Caroliniana? Pursh, 1. p. 98.

Perennial. *Leaves* generally long, narrow, lanceolate, 3—5 nerved, resembling much those of the P. lanceolata. *Scape* long, pubescent near the base. *Flowers* scattered, sometimes solitary, sometimes, particularly near the summit, in small clusters, glabrous.

This species is generally pubescent, but in open pastures it is sometimes nearly glabrous; the leaves may occasionally be found ovate-lanceolate, as described by La Marck, but this is not their general character.

Grows in the moist pine barrens of St. Stephens, South Carolina, very abundantly. St. Mary's, Georgia. Dr. Baldwin.

Flowers all summer.

CENTUNCULUS.

Calyx 4-fidus. *Corolla* 4-fida, patens. *Stamina* brevia. *Capsula* 1-locularis, circumscissa.	*Calyx* 4 cleft. *Corolla* 4 cleft, expanding. *Stamens* short. *Capsule* 1 celled, circumscissed.

1. Lanceolatus. Mich.

C. foliis lato-lanceolatis, ovalibus obovatisque, acutis; floribus axillaribus, sessilibus; caule prostrato. E.	Leaves lanceolate, oval and obovate, acute; flowers axillary, sessile; stem prostrate.

Mich. 1. p.

Root annual, fibrous. *Stem* branched, prostrate, creeping; the extremities assurgent, 2—3 inches long, glabrous. *Leaves* alternate, very acute, glabrous, narrowed at the base, slightly decurrent. *Flowers* solitary. *Calyx* 1 leaved, persistent; segments lanceolate, twice as long as the tube. *Corolla* 1 petalled, a little longer than the calyx, persistent, the tube closely attached to the germ; segments acute, longer than the tube. *Filaments* 4, transparent, inserted into the corolla between the segments. *Anthers* erect, 2 lobed, yellow. *Germ* superior, globose. *Style* as long as the stamens. *Stigma* simple, obtuse. *Capsule* globose, 1 celled. *Seeds* many, somewhat top-shaped, roughened like shagreen, placed near the circumference, attached to a central receptacle.

As the editor of Michaux, with specimens before him, considered this plant as distinct from C. minimus, I have not united them; but I can perceive no difference between our plant and the figure of the C. minimus in the Encyclopedie Meth. excepting that the leaves in La Marck's figure are all acuminate, and in ours they are simply acute.

Grows abundantly in the pastures at Vall'Ombre, near Great Ogechee.

Flowers February—March.

CENTAURELLA. Mich.

Calyx 4-phyllus? *Corolla* subcampanulata, 4-fida. *Capsula* 1-locularis, 2-valvis, calyce corollaque persistente involucrata.

Calyx 4 leaved. *Corolla* nearly campanulate, 4 cleft. *Capsule* 1 celled, 2 valved, clothed with the persistent calyx and corolla.

1. Verna. Mich.

C. caule simplici, paucifloro, (1—3); corollis calyce triplo longioribus; stylo germen æquante. E.

Stem simple, few flowered (1—3); corolla thrice as long as the calyx; style as long as the germ.

Mich. 1. p. 98.

Root annual? composed of very slender fibres. *Stem* 4—8 inches high, somewhat square, tender, glabrous, furnished near the summit with a few opposite branches. *Leaves* very few, resembling scales, scarcely 1 line in length, nearly but not exactly opposite. *Flowers* terminal; peduncles ½—2 inches long, resembling the stem. *Calyx* persistent, deeply 4 cleft, glabrous; segments lanceolate, expanding. *Corolla* 1 petalled, white; segments oblong lanceolate, persistent. *Filaments* 4, (sometimes more) half as long as the corolla, inserted into its tube, and expanding through the fissures. *Anthers* incumbent, 2 celled, yellow. *Germ* superior, oblong, oval. *Style* persistent. *Stigma* thickened, obtuse, 2 cleft, decurrent. *Capsule* oblong, 1 celled, 2 valved. *Seeds* very numerous.

Grows in boggy and damp soils, in the vicinity of the ocean. Very common in Chatham county, Georgia. The young or feeble plants frequently produce only a terminal flower.

Flowers February—April.

2. Paniculata. Mich.

C. floribus paniculatis; corollis calycem æquantibus; stylo brevissimo. E.

Flowers in panicles; corolla as long as the calyx; style very short.

Mich. 1. p. 98.
C. autumnalis, Pursh, 1. p. 100.
Sagina Virginica, Sp. pl. 1. p. 719.

Root annual. *Stem* 1 foot high, square; branches brachiate. *Leaves* minute, subulate, alternate near the root, nearly opposite towards the summit. *Flowers* in a brachiate panicle. *Calyx* 4 leaved, the two outer decurrent. *Corolla* 4 cleft; segments acute, not longer than the calyx. *Style* very short. *Stigma* obtuse.

In the preceding species the calyx appears deeply 4 parted, in this distinctly 4 leaved.

Grows in ditches and damp ground. To me not so common as the former species.

Flowers July—August.

FRASERA.

Calyx 4-partitus. *Corolla* 4-partita, nectarifera. *Capsula* 1-locularis, 2-valvis. *Semina* compressa, marginata.	*Calyx* 4 parted. *Corolla* 4 parted, bearing a nectary. *Capsule* 1 celled, 2 valved. *Seed* compressed, margined.

1. WALTERI. Mich.

Mich. 1. p. 97.
F. Caroliniensis, Walt. p. 88.

Root large, perennial. *Stem* herbaceous, erect, 6—8 feet high, nearly square, furrowed, branching. *Leaves* glabrous, generally verticillate, sometimes opposite; the lower leaves oblong lanceolate, entire, membranous, delicately veined, 6—8 inches long, 2—3 wide; upper leaves narrow lanceolate, small. *Flowers* verticillate, peduncles 1—3 inches long, 1 flowered. Segments of the *calyx* lanceolate, shorter than the corolla. Segments of the *corolla* lanceolate, near the centre of each a circular gland beautifully fringed. *Filaments* 4, shorter than the corolla, attached to the base, and alternating with the segments of the corolla. *Anthers* oblong, incumbent. *Germ* superior, ovate, tapering above. *Style* only the attenuated germ, bifid. *Stigmas* 2, diverging. *Capsule* compressed. *Seeds* few, 8—12, elliptical, compressed, winged, so attached to the attenuate margins of the capsule as to lie over each other in an imbricate position.

Found in Fairfield district, by Mr. Herbemont. It grows also in Abbeville.

Flowers. *Marietta Columbo.—Wild Columbo.*

The root is considered a good bitter tonic, and has been extensively used as a substitute for the Columba root, indeed they are believed by many to be the same. They, however, not only belong to different plants, but according to an analysis made by Dr. Drake of Cincinnati, Ohio, their constituent parts are essentially different. The root of the Frasera "is bitter without aroma, and in its recent state is "said to possess considerable emetic and carthartic powers. As a "medicine it is perhaps equal to any of our native tonics." Drake's Cincinnati, p. 86.

SANGUISORBA.

Calyx 2-phyllus, inferus. *Corolla* supera. *Germen* inter calycem corollamque.

Calyx 2 leaved, inferior. *Corolla* superior. The *germ* between the calyx and corolla.

1. CANADENSIS.

S. spicis cylindricis, longissimis; staminibus corolla multoties longioribus. Willd. Enum. pl.

Spikes cylindric, very long; stamens many times longer than the corolla.

Sp. pl. 1. p. 654. Mich. 1. p. 100. Pursh, 1. p. 116.

Root perennial. *Stem* 3--5 feet high, glabrous, columnar, branching. *Leaves* alternate, pinnate, terminating with an odd one; the upper leaflets opposite, the lower approximate; leaflets cordate, ovate, elongate, obtuse, very acutely serrate, strongly veined, and glaucous underneath, glabrous. Small *stipulaceous* leaves are scattered along the petiole. *Flowers* in a long (12--18 inches) crowded spike. *Calyx* 2 leaved, caducous? *Corolla* on the summit o the germen, rotate, 4 parted, white, becoming greenish, persistent; segments ovate, obtuse, ending in a callous point. *Filaments* much longer than the corolla, clavate, flattened above. *Anthers* small, pale yellow, seated on the end of the filaments. *Style* shorter than the filaments. *Stigma* capitate, very obscurely, if at all divided. *Germ* 4 angled, single seeded. *Seed* ovate. *Capsule* 4 angled, adhering to the seed, and not opening in a regular manner.

Dr. Macbride collected specimens of this plant in our mountains, in flat moist places. It was formerly seen in the Cherokee territory by William Bartram.

Flowers from August to October.

2. MEDIA.

S. spicis cylindricis; staminibus corolla longioribus. Willd. Enum. pl.

Spikes cylindrical; stamens longer than the corolla.

Sp. pl. 1. p. 654. Pursh, 1. p. 116.

The spikes are shorter than those of the preceding species, and tinged with red. Pursh.

Grows in meadows on the mountains, from Canada to Carolina. P.

Flowers July—August.

CORNUS.

Calyx superus, 4-dentatus. *Petala* supera, 4. *Drupa* nuce 2-loculari.	*Calyx* superior, 4 toothed. *Petals* 4, superior. *Drupe* containing a 2 celled nut.
* *Floribus capitatis, involucratis.*	* *Flowers in heads, surrounded by an involucrum.*

1. Canadensis.

C. herbacea; foliis summis verticillatis, venosis; involucris ovatis, acuminatis; drupis globosis. Sp. pl. 1. p. 661.	Herbaceous; the upper leaves verticillate, veined; involucrum ovate, acuminate; drupes globose.

Mich. 1. p. Pursh, 1. p. 107.

This singular little shrub scarcely exceeds 6 inches in height. *Stem* angled near the summit. The lower *leaves* are small, opposite, the upper verticillate, or rather perhaps ternate and opposite, the intermediate leaf being longer than the lateral, all slightly acuminate and marked by rib-like veins. *Flowers* in a terminal capitulum, very small. *Involucrum* white. *Berries* red.

Grows in boggy ground, on high mountains, from New-England to Carolina. Pursh.

Flowers May.

2. Florida.

C. arborea; foliis ovatis, acuminatis; involucris magnis, obcordatis; drupis ovatis. Pursh, 1. p. 108.	Arborescent; leaves ovate, acuminate; involucrum large, obcordate; drupes ovate.

Sp. pl. p. 661. Walt. p. 88. Mich. 1. p. 91.

A tree 15—25 feet high, the *trunk* 8—10 inches diameter, with expanding branches, the smaller crowded at the extremities of the older. *Wood* fine grained, hard, durable. *Leaves* opposite, deciduous, ovate-lanceolate, acuminate, entire, ribbed: the younger ones very pubescent, almost villous on the under surface. *Flowers* in terminal heads. *Involucrum* 4 leaved; leaves large, obcordate, nerved, white; the *sinus* callous, sessile at the base of each head, and enclosing it before the time of flowering. *Calyx* 1 leaved, small, tubular, border 4 cleft; segments erect, obtuse, shorter than the tube. *Petals* 4, linear-lanceolate, inserted into the summit of the germ, yellowish. *Filaments* 4, as long as the corolla, alternating with the petals. *Anthers* incumbent, 2 lobed. *Germ* inferior, slightly angled. *Style* shorter than the stamens, surrounded at base by a glandular ring, around which the petals and filaments are inserted. *Stigma* capitate. *Drupe* red.

Grows in light rich soils.

Flowers March—April. *Dogwood.*

The bark of the trunk and branches of this tree has been long employed as a substitute for the Peruvian bark. Its tonic power is considerable, but in its recent state it is apt to disorder the stomach and bowels. To obviate this effect, it is recommended not to use it for a year after it has been stripped from the tree. It may be given in powder in the same doses with the Peruvian bark. A decoction of the buds and small branches agrees well with a weak stomach, and is probably the most eligible form of using this article.

The wood is much used by mill-wrights, carpenters, &c.

** *Floribus nudis, cymosis.*	** *Flowers naked, in cymes.*

3. **SERICEA.**

C. ramis patulis; foliis ovatis, acuminatis, subtus ferrugineo-sericeis; cymis depressis, lanuginosis. Sp. pl. 1. p. 665.	Branches expanded; leaves ovate, acuminate, the under surface clothed with a silky ferruginous down; cymes depressed, woolly.

Pursh, 1. p. 108.
C. lanuginosa, Mich. 1. p. 92.

A shrub 5—10 feet high. *Leaves* oblong, smooth on the upper surface, sometimes slightly cordate. *Flowers* crowded in the cymes. *Berries* bright blue.

Grows on the banks of rivulets, among the mountains.

Flowers June.

4. **SANGUINEA.**

C. ramis strictis; foliis ovatis, concoloribus utrinque pubescentibus; cymis patentibus. Pursh, 1. p. 109.	Branches straight; leaves ovate, pubescent, and of the same colour on both surfaces; cymes expanding.

Sp. pl. p. 662.

A shrub 8—12 feet high. *Branches* smooth, generally dark purple, pubescent when young. *Leaves* broad, frequently oval, abruptly acuminate, nearly smooth on the upper surface. *Cymes* expanding, when old almost divaricate. (*Berries* dark brown. Pursh.)

Grows in the vallies amongst the mountains.

Flower May—June.

5. STRICTA.

C. ramis strictis; foliis ovatis, concoloribus, nudiusculis; cymis paniculatis. Sp. pl. 1. p. 663.	Branches stiff and straight; leaves ovate, naked, of one colour; cymes pananiculated.

C. sanguinea, Walt. p. 88.
C. fastigiata, Mich. 1. p. 92.

A shrub 8—15 feet high, stoloniferous, branching; branches opposite, glabrous, generally red, roughened by irregular protuberances. *Leaves* ovate-lanceolate, acuminate, entire, glabrous, but sparingly sprinkled with short hair. *Cymes* naked, fastigiate. *Petals* ovate-lanceolate, much longer than the calyx. *Flowers* fragrant. *Filaments* a little longer than the petals.

The cymes in this species are sometimes regular, sometimes paniculate.

Grows in swamps. Very common in the low country.

Flowers April.

6. PANICULATA.

C. ramis erectis; foliis ovatis, acuminatis, subtus canis; cymis paniculatis. Sp. pl. 1. p. 664.	Branches erect; leaves ovate, acuminate, hoary underneath; cymes paniculated.

Pursh, 1. p. 109.

A shrub 4—6 feet high. *Leaves* frequently lanceolate. *Flowers* in compact panicles. (*Berries* white, depressed, globose. Pursh.)

Grows in swamps and near rivulets, from Canada to Carolina, rare. Pursh.

I have specimens collected in very dry soils near Beaufort, that appear to connect this species with the C. stricta. The leaves are nearly of the same colour on each surface; the flowers in panicles.

Flowers May—June.

7. ASPERIFOLIA. Mich.

C. ramis erectis, pubescentibus; foliis ovali-lan-	Branches erect, pubescent; leaves oval-lance-

ceolatis, acuminatis, supra hispidis.	olate, acuminate, scabrous, almost hispid on the upper surface.

Mich. 1. p. 93. Pursh, 1. p. 108.

A shrub 4—10 feet high, stoloniferous; branches virgate, the young rough, the old glabrous. *Leaves* very entire, scabrous, tomentose on the under surface. *Petioles* 3—4 lines long, hairy. *Cymes* terminate, fastigiate. *Peduncles* pubescent, slightly coloured. *Petals* oblong lanceolate, white, pubescent. *Filaments* shorter than the petals. *Anthers* purple. *Germ* villous. *Style* thick, as long as the stamens, somewhat persistent.

Grows in dry, sandy soils, moderately fertile. Common near Beaufort.

Flowers June.

8. ALTERNIFOLIA.

C. ramis verrucosis; foliis alternis, ovatis, acutis, subtus canis; cymis depressis, patentibus. Pursh. 1 p. 109.	Branches warty; leaves alternate, ovate, acute, hoary underneath; cymes depressed, expanding.

Sp. pl. 1. p. 664. Mich. 1. p. 93.

A small tree 15—20 feet high. *Leaves* on long slender petioles, the young tapering to a point, the old with a long acumination. *Berries* purple.

Grows along the margin of rivulets, among the mountains.

Flowers May—June.

PTELEA.

Corolla 4-petala. *Calyx* 4-partitus, inferus. *Stigmata* 2. *Samara* subrotunda, centro monosperma.	*Corolla* 4 petalled. *Calyx* 4 parted, inferior. *Stigmas* 2. *Samara* nearly round, 1 seeded in the centre.

1. TRIFOLIATA.

P. foliis trifoliatis; floribus paniculatis, dioicis. E.	Leaves trifoliate; flowers in panicles, dioicous.

Sp. pl. 1. p. 670.
Walt. p.
Mich. 1. p. 99. Pursh, 1. p. 107.

A shrub 6—8 feet high; the young branches terete, pubescent, the old glabrous. *Leaves* ternate, leaflets oblong, lanceolate, acuminate, crenulate, pubescent, veined, the under surface paler than the upper, 2—3 inches long, 1—2 wide. Common *petiole* 2—3 inches long, pubescent. *Leaflets* sessile. *Flowers* in terminal panicles. Of the sterile flowers the *calyx* very hairy, the segments subulate, appressed. *Corolla* 4 petalled ? if one petalled the segments cohere very slightly), 4 or 5 times as long as the calyx. *Petals* oval, obtuse, pubescent, greenish. *Filaments* 4, shorter than the corolla, tomentose at base. *Anthers* oblong, 2 celled. *Germ* small, hidden in the down of the filaments. *Style* very short. *Stigma* bifid. The fertile flowers similar, but the germ more conspicuous. *Capsule* lanceolate, compressed, 2 celled, not opening, surrounded by a circular membrane. *Seed* 1 in each cell.

Flowers of a strong disagreeable smell.

Grows in the middle and upper country, rare in the lower. Found near Savannah by Mr. Abbot. On James' island.

Flowers May—June.

2. MONOPHYLLA. La Marck.

P. foliis simplicibus, lanceolato-ovatis, subsessilibus; fructibus trialatis. Lam. Encyc. p. 336.	Leaves simple, lanceolate-ovate, nearly sessile; fruit 3 winged.

Of this species I know nothing but from the description of La Marck, who adds that the flowers are in racemes, and that it was found in Carolina by Mr. John Fraser, whose zeal and indefatigable exertions in the collection of the plants of this country are well known.

LUDWIGIA.

Calyx 4-partitus, superus. *Corolla* 4-petala, vel 0. *Capsula* 4-gona, 4-locularis, polysperma.	*Calyx* 4 parted, superior. *Petals* 4, or 0. *Capsule* 4 angled, 4 celled, many seeded.
* *Apetalæ.*	* *Without petals.*

1. PALUSTRIS.

L. caule prostrato, repente; foliis oppositis, lanceolatis basi attenuatis; capsulis oblongis, sub angulatis. E.	Stem prostrate, creeping; leaves opposite, lanceolate, tapering at base; capsule oblong, slightly angled.

L. apetala, Walt. 89.
L. nitida, Mich. 1. p. 87. Pursh, 1. p. 111.
Isnardia palustris, Sp. pl. 1. p.

Root fibrous, perennial. *Stem* slightly angled, succulent, branching. *Leaves* very entire, glabrous. *Flowers* solitary, axillary, sessile; 2 small subulate leaves at the base of each flower. *Calyx* deeply 4 parted; segments acuminate, shorter than the germ. *Corolla* 0. *Filaments* 4, opposite to the segments of the calyx, and one half as long. *Anthers* nearly round, 2 celled, whitish. *Germ* inferior, turbinate. *Style* short. *Stigma* capitate. *Capsule* oblong, slightly 4 angled, crowned with the permanent calyx *Receptacle* central, with a wing extending into each cell to which the seeds are attached. *Seeds* numerous, oval, glabrous.

Grows in wet ground, ditches, bogs, &c.

Flowers nearly the whole year.

2. ALATA. E.

L. glabra; foliis cuneato-lanceolatis, decurrentibus; caule alato; capsulis cubicis, sessilibus. E.	Glabrous; leaves cuneate-lanceolate, decurrent; stem winged; capsules cubic, sessile.

Stem about 2 feet high, sparingly branched, more strongly winged than any of our species of Ludwigia excepting the doubtful L. jussiæoides. *Leaves* alternate, cuneate, at base lanceolate or oval, the margins irregular as if denticulate. *Calyx* shorter than the capsule. *Capsule* somewhat cubical, slightly winged.

Found in damp places on Sullivan's Island, in the wooded part of the island.

Flowers July—September.

3. MICROCARPA. Mich.

L. caule decumbente, subalato; foliis alternis, spathulato-obovatis; floribus axillaribus, sessilibus. E.	Stem decumbent, slightly winged; leaves alternate, spathulate-obovate; flowers axillary, sessile.

Mich. 1. p. 88.
L. glandulosa? Pursh, 1. p. 111.

Root annual? *Stem* about a foot high, branching, slightly angled by the decurrent leaves. *Leaves* acute, glabrous, margins obscurely denticulate, about an inch long, 3—4 lines wide. *Stigma* simple, obtuse. *Capsule* very small, 4 furrowed, discharging its seed through a pore in the summit of the capsule.

Grows in damp soils. Rare to me. Found in the fields at Walnut Hill, seven miles from Beaufort.

Flowers July—September.

4. SPHÆROCARPA. E.

L. caule erecto, ramoso; foliis lineari-lanceolatis; capsulis parvulis, sessilibus, globosis, pubescentibus. E.	Stem erect, branching; leaves linear-lanceolate; capsules small, sessile, globose, pubescent.

Root perennial. *Stem* 2 feet high, erect, slender, very slightly angled, glabrous. *Leaves* 2 inches long, 2 lines wide, very acute, base also acute, glabrous, sprinkled when young with a few hairs, alternate. *Flowers* sessile, axillary. *Calyx* about as long as the germ.

This plant has much affinity to the L. mollis, but is every way more slender and more glabrous, the capsules not more than one quarter of their size, and destitute of the two leaves which mark the capsules of L. mollis.

Found near Orangeburgh, S. C. in swampy grounds.

Flowers July—September.

5. CYLINDRICA. E.

L. caule erecto, ramoso, sub angulato; foliis lanceolatis; capsulis cylindricis. E.	Stem erect, branching, slightly angled; leaves lanceolate; capsule cylindrical.

Root perennial. *Stem* herbaceous, 3 feet high, glabrous. *Leaves* alternate, tapering at each extremity, 3—4 inches long, nearly 1 wide, slightly decurrent; the margins appear remotely denticulate. Segments of the *calyx* serrulate, shorter than the germ. *Filaments* tinged with purple. *Anthers* yellow. *Germ* cylindrical, somewhat scabrous. *Style* thick. *Stigma* capitate, globose. *Capsule* oblong, cylindrical, slightly 4 furrowed, and pubescent. *Seeds* slightly angled.

This plant has been considered as the L. glandulosa of Walter, but its leaves are never ovate, nor have I ever seen the glands from which Walter formed his name; neither is it probable that Walter would have omitted to mention the cylindrical capsule, which is much more remarkable in this species than in the L. linearis.

Grows at Burton's Hill, three miles from Beaufort; and found near Savannah by Dr. Baldwin.

Flowers July—September.

6. LANCEOLATA.

L. caule virgato; foliis angusto-lanceolatis, gla-	Stem virgate; leaves narrow, lanceolate, gla-

bris, subdecurrentibus; capsulis cubicis, sessilibus, alatis. E.	brous, slightly decurrent; capsules cubic, sessile, winged.

Root perennial? *Stem* erect, rarely branched, angled, glabrous. *Leaves* long, lanceolate, tapering towards both extremities. *Flowers* axillary, sessile, solitary, numerous. *Calyx* shorter than the capsule. *Capsule* cubical, winged.

Discovered by Mr. Le Conte, in the swamps in Georgia, and sent to me by Dr. Baldwin. A variety with narrow leaves, and capsules slightly winged, grows on the neck about six miles from Charleston.

Flowers through the summer.

** *Rudimentis tantum petalorum.*	** *With the rudiments of petals.*

7. **Mollis.** Mich.

L. villosa; caule erecto, ramosissimo; foliis lanceolatis; floribus plerumque congestis; capsula globosa, bifoliata. E.	Villous; stem erect, much branched; leaves lanceolate; flowers generally clustered; capsule globose, 2 leaved.

Mich. 1. p. 90. Pursh, 1. p. 111.
L. rudis? Walt. p. 89.

Root perennial, throwing out many creeping suckers. *Stem* erect, more branched than in any other species, covered, as every part of the plant, with a soft villous down, scarcely at all angled. *Leaves* on the runners spathulate lanceolate, on the stem alternate, lanceolate, acute at each extremity. *Flowers* axillary, sessile, clustered towards the extremity of the branches into a compact, cylindrical, leafy spike. *Calyx* as long as the germ, and nearly as long as the mature capsule. *Capsule* globose, villous; the two bracteal leaves, which in the other species are below the capsule, in this are seated on it.

Grows in ditches and bogs. The most common perhaps of all the species.

Flowers August—September.

8. **Capitata.** Mich.

L. caule erecto, virgato; foliis lineari-lanceolatis, glabris; floribus plerumque conferto cap-	Stem erect, virgate; leaves linear-lanceolate, glabrous; flowers generally clustered into ter-

ilatis ; bracteis calyce longioribus. E.

minal heads ; bracteas longer than the calyx.

Mich. 1 p. 90. Pursh, 1. p. 111.
L. suffruticosa, Walt. p. 90.

Root perennial. *Stem* herbaceous, erect, columnar, glabrous, very slightly marked by the decurrent leaves. *Leaves* nearly subulate, very acute, obtuse at base, glabrous. *Flowers* sessile, axillary, sometimes a little remote, generally forming a compact head. *Bracteas,* which in most of the species are minute leaves at the base of the capsule, in this are longer than the calyx, and lanceolate. *Calyx* longer than the germ. (*Petals* shorter than the calyx. Mich.) In the specimen no trace of a corolla is perceptible. I have never seen it in flower. *Capsule* oblong, slightly winged.

Not very common, but widely diffused. Sent from Louisville, Georgia, by Mr. Jackson ; St. Mary's, by Dr. Baldwin. Ogechee.

Grows in damp soils.

Flowers August—October.

*** *Corollatæ.*

*** *With corollas,*

9. PEDUNCULOSA. Mich.

L. caule procumbente, radicante ; foliis oppositis, lanceolatis; pedunculis foliis longioribus. E.

Stem procumbent, radicant ; leaves opposite, lanceolate ; peduncles longer than the leaves.

Mich. 1. p. 88.—Pursh, 1. p. 111.
L. arcuata ? Walt. 89.

Root perennial. *Stem* sparingly pubescent, branching, purple, 3—6 inches long. *Leaves* sessile, entire, glabrous on the upper surface, the under slightly sprinkled with hair, 3—4 lines long 1—1½ wide. *Flowers* axillary, solitary; peduncles 2—3 times as long as the leaves. *Calyx* longer than the germ. *Petals* obovate, entire, yellow, large for the size of the plant, inserted into the summit of the germ, alternating with the segments of the calyx, caducous. *Stamens* half as long as the calyx. *Style* and *stigma* yellow. *Capsule* inversely conical, pubescent, opening through a central pore.

Grows in bogs and wet places of the lower country.

Flowers May—June.

10. LINEARIS. Walt.

L. caule erecto, ramoso, superne angulato ; foliis linearibus, glabris; floribus sessilibus. E.

Stem erect, branching, angled near the summit ; leaves linear, glabrous ; flowers sessile.

Walt. p. 89.—Pursh, 1. p. 110.
L. angustifolia, Mich. 1. p. 88.

Root perennial. *Stem* 2 feet high, below columnar, above slightly angled by the decurrent leaves. *Leaves* alternate, glabrous, 2 inches long, when magnified slightly serrulate; with two subulate glands at base. *Calyx* shorter than the germ. *Petals* obovate, longer than the calyx, yellow. *Anthers* oblong, large, erect, with the margins crenate. *Germ* oblong, furrowed, the angles rounded.

Grows in shallow water, generally in ditches and swamps.

Flowers July—September.

11. VIRGATA. Mich.

L. caule virgato, pubescente; foliis ovato-elongatis, obtusis; calyce reflexo; capsulis alatis. E.	Stem virgate, pubescent; leaves ovate, elongate, obtuse; calyx reflexed; capsules winged.

Mich. 1. p. 89.—Pursh, 1. p. 110?
L. alternifolia, Walt. p. 89.

Root perennial. *Stem* erect 2—3 feet high, slightly angled by the decurrent leaves, pubescent, rarely branched. *Leaves* closely sessile, narrow, soft, pubescent, rounded at base, the summit obtuse or abruptly acute. *Flowers* rather remote, on peduncles about ½ inch long. *Calyx* longer than the capsule, segments lanceolate, acute, reflexed. *Petals* obovate, longer than the calyx, caducous. *Capsule* nearly cubic, with the angles winged, opening through a central pore.

Grows in close soils. Very common. Less of an aquatic plant, than any other species.

Flowers May—September.

12. PILOSA. Walt.

L. pilosa, interdum hirsuta; caule erecto, ramoso; foliis ovatis, obtusis; calyce erecto; capsulis alatis. E.	Hairy, sometimes hirsute; stem erect, branching; leaves ovate, obtuse; calyx erect; capsules winged.

Walt. p. 89.
L. hirsuta, La. Marck, Encyc. p. 587.—Pursh, 1. p. 110.
Sp. pl. 1. p. 673.

Root perennial. *Stem* erect, sometimes virgate, sometimes much branched, hairy, columnar, the branches very slightly marked by the decurrent leaves. *Leaves* obtuse at each end, 10—18 lines long, 3—4 lines wide. *Flowers* axillary, on peduncles one half inch long. Segments of the *calyx* longer than the germ. *Petals* obovate, yellow, rather longer than the calyx. *Capsule* somewhat cubical, slightly winged, opening through a central pore.

In habit much resembling the preceding species. To Dr. Baldwin I am indebted for the observation that besides the other noted marks of distinction, the calyx is always erect in this species, and reflected in the former.

Grows in miry and clayey soils.

Flowers August—October.

14. Alternifolia.

L. caule erecto, ramoso, scabriusculo; foliis alternis, lanceolatis; capsulis alatis. E.	Stem erect, branching, slightly scabrous; leaves alternate, lanceolate; capsules winged.

Sp. pl. 1. p. 672.
L. ramosissima, Walt. p. 89.
L. macrocarpa, Mich. 1 p. 89.—Pursh, 1. p. 110.

Root perennial. *Stem* 3—4 feet high, much branched, a little rough, and pubescent, towards the summit slightly angled by the decurrent leaves. *Leaves* sessile, lanceolate, acute at each extremity, a little hairy and scabrous, and apparently serrulate by the marginal hairs. *Flowers* on short peduncles. Segments of the *calyx* five nerved, ciliate, 3 or 4 times longer than the germ; before the time of flowering the segments only approach each other loosely but are not united. *Petals* rounded, caducous, as long as the calyx. *Capsules* somewhat cubic, angled, winged, the wings very large and ciliate, opening through a central pore.

To me rare. Grows 7 miles from Beaufort in the swamp at the Half-way house and sent to me lately from Savannah by Dr. Baldwin.

Flowers July—September.

15. Decurrens. Walt.

L? caule erecto; foliis ovato-lanceolatis, decurrentibus; floribus octandris. E.	Stem erect; leaves ovate-lanceolate, decurrent; flowers with 8 stamens.

Walt. p. 89 Pursh, 1. p. 110.
L. Jussiæoides, Mich. 1. p. 89.

Jussiæa erecta, Abbot's Insects of Georg. t. 40. Pursh, 1. p. 304.

Root perennial? fibrous, fibres woolly. *Stem* erect, 2 feet high, square, glabrous, widely winged by the decurrent leaves. *Leaves* shining, with 2 glands at base. *Flowers* on peduncles, 2—3 lines long, square, winged; 2 cordate glands on the middle of the peduncles. Segments of the *calyx* shorter than the germ, acuminate, 5 nerved. *Petals* obovate, larger than the calyx, yellow, caducous, having a white, lunate, hairy gland around the base. *Filaments* 8, shorter than the petals. *Anthers* erect, pale yellow. *Germ* oblong, square, winged. *Style* short. *Stigma* capitate. *Capsule* very long, square, winged.

Grows in moist situations. Very common.

Flowers July—September.

AMMANNIA.

Corolla 4-petala, calyce inserta, vel nulla. *Calyx* 1-phyllus, plicatus, 8-dentatus, inferus. *Capsula* 4-locularis.	*Corolla* 4 petalled, inserted into the calyx, or 0. *Calyx* 1 leaved, plaited, 8 toothed, inferior. *Capsule* 4 celled.

1. Ramosior.

A. caule erecto, subtereto; foliis semiamplexicaulibus; floribus inferioribus verticillatis. E.	Stem erect, somewhat columnar; leaves semiamplexicaul; the lower flowers verticillate.

Sp. pl. 1. p. 678.
Mich. 1. p. 99.

Root annual ? *Stem* 2 feet high, columnar, succulent, glabrous, when procumbent taking root. *Leaves* opposite, narrow lanceolate, at base somewhat cordate, the lower nearly sessile, the upper entirely so. *Flowers* axillary, sessile, the lower ones clustered, the upper solitary; 2 small subulate leaves at the base of each calyx. *Calyx* persistent, glabrous, truncate, enveloping the germ even to maturity, 4 angled, acute, expanding, 4 plaited, incumbent. *Petals* small, obovate, very pale purple, inserted into the calyx near the summit. *Filaments* 4, inserted into the base of the calyx, alternating with the petals, very short. *Anthers* globose, 2 celled, greenish, before flowering attached to the stigmas. *Germ* superior, globose, 8 furrowed. *Style* very short, thick. *Stigma* obtuse. *Seed* numerous, attached to wings extending from the central receptacle into each cell.

Grows in wet places.

Flowers August—September.

2. Humilis. Mich.

A. caule erecto, tetragono; foliis lanceolatis, basi attennuatis; floribus solitariis. E.	Stem erect, square; leaves lanceolate, tapering at base; flowers solitary.

Mich. 1. p.99
A. ramosior ? Walt. p. 88.

Root annual? *Stem* simple, 6 inches high, glabrous, tender, occasionally branched. *Leaves* opposite, obtuse. *Flowers* sessile, axillary. *Calyx* surrounding the germ, and adhering to it when young, with 4 short expanding segments, and 4 which appear interior, much longer, lanceolate, erect; 2 small leaves at the base of the calyx. *Petals* 4, obovate, white, caducous, *alternating with the segments of the calyx, and inserted into the summit of the germ.* *Filaments* very short. *Anthers* erect, large, yellow. *Germ* rather inferior. *Style* very short, scarcely any. *Stigma* capitate. *Capsule* 4 celled, nearly square, apparently crowned with the calyx. *Seeds* numerous, attached to wings of the central receptacle which extend into each cell.

This plant, by the insertion of its petals and its adhering calyx, which seem only to separate from the capsule when both are dry, has some affinity to the genus Ludwigia; while by its 8 parted calyx, the colour of its corolla and its opposite leaves, it approaches Ammannia.

Grows in damp soils, two miles from Beaufort, near the main road.

Flowers September—October.

DIGYNIA.

HAMAMELIS.

Involucrum triphyllum, triflorum. *Calyx* proprius 4-phyllus. *Petala* 4. *Nux* bicornis, 2-locularis.	*Involucrum* 3 leaved, 3 flowered. Proper *calyx* 4 leaved. *Petals* 4. *Nut* 2 horned, 2 celled.

1. Virginica.

H. foliis obovatis, acute dentatis, sinu parvo cordatis. Pursh, 1. p. 116.	Leaves obovate, acutely toothed, cordate with the sinus small.

Sp. pl. 1. p. 701. Mich. 1. p. 100. Walt. p. 255.

A shrub 4—10 feet high; branches many, long, slightly but regularly geniculate. *Leaves* strongly veined, slightly scabrous, "loosely waved or toothed upon the margins." (Big.) *Flowers* axillary, in clusters. *Petals* four times as long as the calyx, very linear, pale yellow. *Nut* partly clothed with the calyx, ending in two recurved protuberances; cells of a bony consistence, polished within, discharging the seed when mature, with a spring to some distance. *Seed* elliptical or oval, about the size of a grain of barley; tegument bony, of a shining black colour, one end (hilum ?) white.

This shrub seldom flowers with us until its leaves have all fallen. It appears, from Dr. Bigelow's description, to attain to a much more considerable size in New-England than the Southern States. Walter's three species appear to be only varieties.

Negroes grind off the ends of the seed, and string them for personal ornaments.

Grows in light, rich soils, on the margins of rivulets.

Flowers October—November, and sometimes during the mild weather in winter. *Witch Hazle.*

2. MACROPHYLLA. Pursh.

H. foliis suborbiculatis, cordatis, grosse obtuse-dentatis, subtus scabro-punctatis. Pursh, 1. p. 116.	Leaves nearly orbicular, cordate, largely and obtusely toothed, beneath rough, with scabrous dots.

Found by Mr. Lyon in the western districts of Georgia; a species perhaps doubtful.

CUSCUTA.

Calyx 4-fidus. *Corolla* 1-petala. *Capsula* 2-locularis, circumscissa.	*Calyx* 4 cleft. *Corolla* 1 petalled. *Capsule* 2 celled, circumscissed.

1. AMERICANA.

C. floribus pedunculatis, umbellatis, quinquefidis. Sp. pl. 1. p. 702.	Flowers peduncled, umbelled, 5 cleft.

Walt. p. 109. Mich. 1. p. 175. Pursh, 1. p. 116.

This singular plant, which twines around small sbrubs, and resembles loose webs of pale orange-coloured thread, springs first from the ground, but immediately attaching itself to other plants becomes parasitic, adheres closely to their bark, and loses its connection with the earth. *Stem* filiform. *Leaves* 0. *Flowers* in alternate and remote clusters. Small *petals*, nearly white. *Seeds* 2.

The flowers are perhaps rather in small racemes clustered together than in umbels, and are in our species pentandrous.

This plant is found attached indiscriminately to shrubs and herbaceous plants, but seems to prefer the Betula serrulata, Sambucus Canadensis, Rubus trivialis, and Erigeron Canadense. It may be readily transplanted by detaching a few inches of the stem and placing it on any living plant in damp weather.

Grows in damp soils.

Flowers through the summer. *Love Vine.*

TETRAGYNIA.

SAGINA.

Calyx 4-phyllus. *Corolla* 4-petala. *Capsula* 4-locularis, polysperma.	*Calyx* 4 leaved. *Corolla* 4 petalled. *Capsule* 4 celled, many seeded.

1. PROCUMBENS.

S. caulibus procumbentibus, glabris ; petalis brevissimis. Pursh, 1. p. 119.	Stem procumbent, glabrous ; petals very short.

Stem 3—4 inches long, procumbent, branching. *Leaves* linear, opposite, clustered at the extremity of the branches. *Peduncles* solitary, axillary, longer than the leaves, one flowered.

Flowers, according to Linnæus, are sometimes apetalous.

Grows in barren sandy fields, in Virginia and Carolina. Pursh.

Flowers May—August.

POTAMOGETON.

Calyx 0. *Petala* 4. *Stylus* 0. *Semina* 4.	*Calyx* 0. *Petals* 4. *Style* 0. *Seeds* 4.

1. FLUITANS.

P. foliis natantibus longe petiolatis, lanceolato-ovatis, utrinque attenuatis. Sp. pl. 1. p. 713.	Leaves floating, on long petioles, lanceolate-ovate, tapering at each end.

Pursh, 1. p. 120.

Growing generally in deep water, (2—6 feet). *Stem* branching, glabrous ; the submersed leaves narrow, lanceolate, sessile, long, (3—5 inches) ; the floating leaves on footstalks, 1—2 inches long, oval, lanceolate, many nerved, (17—19 ?) nerves alternately more distinct ; a *stipule* sheathing the stem of the base of each leaf. *Flowers* in axillary spikes. Common *peduncle* long. The flowers rise to the surface of the water during the period of inflorescence.

Grows in stagnant waters. Silk Hope, eight miles from Savannah. Not so common as the succeeding species.

Flowers May—June.

2. Heterophyllum?

P. foliis superioribus oppositis, lanceolatis, petiolatis, quinquenervibus; inferioribus alternis, linearibus, sessilibus. E.

Upper leaves opposite, lanceolate, petiolate, 5 nerved; the lower alternate, linear, sessile.

Sp. pl. 1. p. 713. Pursh, 1. p. 120.
P. hybridum, Mich. 1. p. 101.

Root perennial. *Stem* 1—3 or 4 feet long, branching, glabrous; upper leaves acute at each end, very entire, 1 inch long, 3—4 lines wide; the lower ones, which are submersed, 1—2½ inches long. *Flowers* in spikes, crowded, opposite the leaves, and axillary. *Corolla* 4 petalled; petals nearly round, concave, obscurely green, deciduous. *Filaments* shorter than the corolla. *Anthers* 2 lobed, nearly round. *Germs* 4. *Styles* very short. *Stigma* obtuse, capitate. *Seeds* 4, reniform, nearly round, roughened.

This plant seems strongly to resemble the P. setaceum of Pursh.

Grows in stagnant water.

Flowers April.

3. Pauciflorum. Pursh.

P. foliis linearibus, sessilibus, ; inferioribus alternis, superioribus verticillatis; spicis pedunculatis, paucifloris. E.

Leaves linear, sessile, the lower alternate, the upper verticillate; spikes on peduncles; flowers few.

Pursh, 1. p. 121.
P. gramineum, Mich. 1. p. 102.

Stem branching, much diffused. *Leaves* linear, 1—2 inches long; the lower alternate, the upper generally by fours. *Spikes* on peduncles nearly an inch long, one from each whorl of leaves. *Flowers* few, 4—10.

Grows in shallow water.

Flowers through the summer.

CLASS V.

PENTANDRIA.

MONOGYNIA.

107. HELIOTROPIUM.
108. MYOSOTIS.
109. LITHOSPERMUM.
110. ONOSMODIUM.
111. BATSCHIA.
112. CYNOGLOSSUM.
113. PULMONARIA.
114. DIAPENSIA.
115. VILLARSIA.
116. HOTTONIA.
117. HYDROPHYLLUM.
118. LYSIMACHIA.
119. ANAGALLIS.
120. PHACELIA.
121. SPIGELIA.
122. OPHIORRHIZA.
123. AZALEA.
124. PHLOX.
125. CONVOLVULUS.
126. IPOMŒA.
127. CANTUA.
128. POLEMONIUM.
129. CAMPANULA.
130. SAMOLUS.
131. LOBELIA.
132. PINCKNEYA.
133. TRIOSTEUM.
134. CAPRIFOLIUM.
135. SYMPHOREA.
136. DIERVILLA.
137. VERBASCUM.
138. DATURA.
139. ATROPA.
140. PHYSALIS.
141. SOLANUM.
142. SABBATIA.
143. BUMELIA.
144. RHAMNUS.
145. ZIZYPHUS.
146. CEANOTHUS.
147. EUONYMUS.
148. ITEA.
149. CYRILLA.
150. GALAX.
151. RIBES.
152. VIOLA.
153. IMPATIENS.
154. CISSUS.
155. CLAYTONIA.
156. ANYCHIA.
157. ACHYRANTHES.
158. THESIUM.
159. GELSEMINUM.
160. ECHITES.
161. AMSONIA.

DIGYNIA.

162. APOCYNUM.
163. CEROPEGIA.
164. ACERATES.
165. ASCLEPIAS.
166. PODOSTIGMA.
167. GONOLOBUS.
168. CHENOPODIUM.
169. SALSOLA.
170. ULMUS.
171. PLANERA.
172. CELTIS.
173. HYDROLEA.
174. HEUCHERA.
175. DICHONDRA.
176 GENTIANA.
177. ERYNGIUM.
178. HYDROCOTYLE.
179. SANICULA.
180. DAUCUS.
181. AMMI.
182. SELINUM.
183. FERULA.
184. LIGUSTICUM.
185. ANGELICA.
186. SIUM.
187. SISON.
188. CICUTA.
189. CHÆROPHYLLUM.
190. SMYRNIUM.

TRIGYNIA.

191. RHUS.
192. VIBURNUM.
193. SAMBUCUS.
194. STAPHYLEA.
195. TURNERA.
196. LEPUROPETALON.
197. SAROTHRA.

TETRAGYNIA.

198. PARNASSIA.

PENTAGYNIA.

199. ARALIA.
200. STATICE.
201. LINUM.
202. DROSERA.

POLYGYNIA.

203. ZANTHORHIZA.

HELIOTROPIUM. Gen. pl. 239.

Corolla hypocrateriformis, 5-fida, interjectis dentibus, fauce nuda.	*Corolla* hypocrateriform, 5 cleft, with teeth interposed, and the throat naked.

1. **Indicum.**

H. foliis cordato-ovatis, acutis, scabriusculis; spicis solitariis; fructibus bifidis. Sp. pl. 1. p. 740.	Leaves cordate-ovate, acute, scabrous; spikes solitary; fruit 2 cleft.

Walt. p. 91.
Mich. 1. p. 228. Pursh, 1. p. 130.

Root annual? *Stem* 8—12 inches high, furrowed, hispid. *Leaves* alternate ovate, seldom cordate, the margin irregular, strongly veined. *Flowers* in axillary spikes, at first recurved, after flowering straight. *Calyx* 5 parted, persistent, hirsute. *Corolla* longer than the calyx. *Seeds* 4, angular, adhering by pairs which separate widely, slightly emarginate.

Grows, where Michaux observed it, at the Eutaw (Youta) Springs, and found by Mr. Oemler in the Dutch Fork, above Columbia. It is found generally along the borders of rivulets in the middle and upper country.

Flowers June—August.

2. **Curassavicum.**

H. foliis angusto-lanceolatis, glabris, carnosis, aveniis; spicis conjugatis. Sp. pl. 1. p. 745.	Leaves narrow lanceolate, succulent, glabrous, without veins; spikes conjugate.

Annual ? *Stem* 6—12 inches long, erect when simple, decumbent when much divided, terete, succulent, and with the whole plant glaucous. *Leaves* alternate, with small ones generally in the axil, somewhat crowded, 1—1½ inch long, 3—4 lines wide, rather obtuse, tapering at base, sessile. *Flowers* in terminal, conjugate revolute spikes. *Calyx* 5 parted, succulent, persistent. *Corolla* small, hypocrateriform, white, the tube tinged with yellow, border 5 parted; segments obtuse, tube as long as the calyx, 5 furrowed: throat naked. *Anthers* sessile in the base of the tube, sagittate, acuminate. *Germs* 4, superior. *Style* 0, or very short *Stigma* thick, somewhat conical, undivided, with a margin round its base. *Seeds* 4, coated on the out side with a thick fleshy pulp, 2 furrowed, angled on the inside.

Grows in soils affected by salt water, on the shores of Charleston harbour.

Flowers May—July.

MYOSOTIS. GEN. PL. 240.

Corolla hypocrateriformis, 5-fida, emarginata; fauce clausa fornicibus.	*Corolla* hypocrateriform, 5 cleft, emarginate; the throat closed with arches formed by the filaments.

1. VIRGINIANA.

M. pilosum: seminibus aculeato-glochidibus; foliis ovato-lanceolatis, acuminatis: racemis divaricatis Pursh, 1. p. 134.	Hairy: seeds retrorsely aculeate; leaves ovate lanceolate, acuminate; racemes divaricate.

Sp. pl. 1. p. 748. Mich. 1. p. 129.

Plant 1—2 feet high, branching. *Leaves* scabrous, oval, ovate and lanceolate, generally acute. *Flowers* white or pale blue. *Fruit* nodding, the seeds covered except on the interior angle, with barbed prickles.

Grows in dry soils, in the upper districts of Carolina.

Flowers June—July.

LITHOSPERMUM. GEN. PL. 241.

Corolla infundibuliformis, fauce perforata, nuda. *Calyx* 5-partitus.	*Corolla* funnel shaped, the throat perforate, naked. *Calyx* 5 parted.

1. ARVENSE.

L. seminibus rugosis; corollis vix calycem su-	Seed rough; corolla scarcely longer than the

perantibus ; foliis obtusis, aveniis. Smith, Fl. Brit. 1. p 213.	calyx ; leaves obtuse, without veins.

Sp. pl. 1. p. 751. Pursh, 1. p. 131.

Plant annual, hispid. *Stem* 12—18 inches high, branching. *Leaves* oblong, frequently ovate. *Flowers* solitary, axillary, nearly sessile, forming terminal, leafy racemes. Segments of the *calyx* long, linear or subulate. *Corolla* greyish white.

Grows on Charleston Neck, in dry soils. Not common. Imported.
Flowers May—July.

ONOSMODIUM. Mich.

Corolla fauce nuda, subcampanulata, limbo ventricoso ; laciniis conniventibus, acutis. *Antheræ* sessiles, inclusæ. *Calyx* 5-partitus.	*Corolla* with the throat naked, somewhat campanulate, the border ventricose ; segments connivent, acute. *Anthers* sessile, included. *Calyx* 5 parted.

1. Hispidum.

O. foliis ovali-lanceolatis, nervosis ; corollis acuminatis.	Leaves oval lanceolate, nervose ; segments of the corolla acuminate.

Mich. 1. p. 133. Pursh, 1. p. 132.
Lithospermum Virginianum, Sp. pl. 1. p. 752. Walt. p. 91.

Root fusiform ? perennial. *Stem* herbaceous, 1—2 feet high, branched, obtusely angled, with the leaves and calyx hispid. *Leaves* alternate, sessile, oblong lanceolate and obovate, very entire, rough, the hairs proceeding from elevated points. *Flowers* in simple, leafy, secund racemes, which at first are recurved, afterwards straight. *Peduncles* 1—2 lines long, hispid. *Calyx* persistent ; segments acute, ciliate. *Corolla* longer than the calyx, deciduous, pubescent, yellowish ; segments very acute, connivent. *Filaments* very short. *Anthers* sagittate, nearly sessile on the tube of the corolla. *Germs* 4, superior. *Style* filiform, nearly twice as long as the corolla. *Stigma* simple, obtuse. *Seeds* 4, of which 1 or 2 frequently prove abortive, angled on the inner side, glabrous, shining ; tegument bony.

Grows in dry, sandy soils. Common.
Flowers May—June.

BATSCHIA. GMELIN.

Corolla hypocrateriformis, fauce nuda? tubo ad basin barbato. *Calyx* 5-partitus.	*Corolla* hypocrateriform, with the throat naked, and tube bearded at the base. *Calyx* 5 parted.

1. GMELINI. Mich.

B. caule foliisque hirtis, asperrimis; calycis laciniis longis, sublanceolatis.	Stem and leaves hispid, very rough; segments of the calyx long, nearly lanceolate.

Mich. 1. p. 130. Pursh, 1. p. 132.
Anon. Caroliniensis, Walt. p. 91.
Anchusa hirta, Muhl Cat.

Root perennial. *Stem* 10—16 inches high, columnar, generally simple, several from the root. *Leaves* alternate, oblong, somewhat oval, those near the flowers ovate-lanceolate, entire. *Flowers* axillary, nearly sessile, near the summit so much crowded as to resemble a terminal corymb. Segments of the *calyx* linear-lanceolate, nearly as long as the tube, persistent. *Corolla* bright orange; segments rounded, in the throat there appears to be (I describe from specimens) 5 roughened tubercles, not valves, which distinguish this genus from Anchusa. *Filaments* very short, inserted in the tube of the corolla.

This is a very ornamental plant, and merits a place in every flower-garden.

Grows in dry soils. Common in the middle country of Carolina; is rarely if ever found within 30 miles of the ocean.

Flowers in April.

2. CANESCENS. Mich.

B. caule foliisque superioribus villosis, asperiusculis; calycis laciniis brevibus, linearibus.	Stem and upper leaves villous, slightly roughened; segments of the calyx short, linear.

Mich. 1. p. 130. Pursh, 1. p. 132.

Very similar in habit to the preceding. The leaves are generally much longer, narrow, oval, and although the upper ones are shortened they are generally longer than the flowers: the whole plant soft and villous, and even to the tongue but slightly scabrous: segments of the calyx scarcely half as long as the tube, linear or setaceous.

I have a specimen from the upper country, sent I believe by Mr. Herbemont, in which the leaves are less villous and the calyx smaller than in the specimens sent by Dr. Muhlenberg from Pennsylvania.

Grows in the upper districts of Carolina.

Flowers

CYNOGLOSSUM. Gen. pl. 243.

Corolla infundibuliformis, fauce clausa fornicibus. *Semina* depressa, interiore tantum latere stylo affixa.	*Corolla* funnel-shaped, the throat closed with arches. *Seed* depressed, affixed to the style by the interior side.

1. Virginicum.

C. hirsutissimum; foliis ovali-oblongis, superioribus amplexicaulibus; corymbo terminali, aphyllo, longe pedunculato.	Very hairy; leaves oval oblong, the upper amplexicaul; corymb terminal, leafless, on a long peduncle.

Sp. pl. 1. p. 162.

C. amplexicaule, Mich. 1. p. 132. Pursh, 1. p. 133.

Perennial. *Stem* 1—2 feet high, very hispid. *Leaves* less hairy, large, somewhat scabrous. *Flowers* in a small terminal corymb. *Corolla* blue, the throat closed by the arching of the filaments

Grows near Columbia, South-Carolina. Mr. Herbemont. In shady moist woods. Pursh.

Flowers May—June. *Hounds-tongue.*

PULMONARIA. Gen. pl. 244.

Corolla infundibuliformis, fauce pervia. *Calyx* prismatico-5-gonus.	*Corolla* funnel-shaped, throat pervious. *Calyx* prismatic, 5 angled.

1. Virginica.

P. glabra, erecta; foliis lanceolato-ovatis, obtusiusculis; floribus fasciculatis, terminalibus;	Glabrous, erect; leaves lanceolate-ovate, somewhat obtuse; flowers fasciculate, terminal; corol-

corollis calyce multo longioribus. Pursh, 1. p. 130.	la much longer than the calyx.

Sp. pl. 1. p. 769. Walt. p. 91. Mich. 1. p. 131.

Root perennial. *Stem* glabrous, branching. *Leaves* alternate lanceolate, oval, and the upper frequently ovate, all somewhat obtuse, the upper very much so, glaucous, glabrous. *Flowers* in terminal racemes. *Calyx* small, persistent, 5 parted. Tube of the *corolla* many times longer than the calyx; border campanulate, obscurely 5 lobed, violet coloured. *Stamina* shorter than the corolla, filaments inserted into the tube. *Germ* superior. *Style* slender, longer than the stamens, somewhat persistent. *Stigma* capitate.

Grows along the sandy borders of the mountain streams. Mich.
Flowers April ?

DIAPENSIA. Gen. pl.

Capsula 3-locularis, 3-valvis, polysperma. *Corolla* hypocrateriformis, tubo brevi. *Calyx* 5-partitus, basi bracteatus. *Stylus* brevis. *Stigma* 3-lobum.	*Capsule* 3 celled, 3 valved, many seeded. *Corolla* hypocrateriform, with a short tube. *Calyx* 5 parted, bracteate at base. *Style* short. *Stigma* 3 lobed.

1 Barbulata.

D. foliis lanceolato-cuneatis, inferne pubescentibus; antheris horizontalibus, basi rostratis.	Leaves lanceolate wedge shaped, and pubescent at base; anthers horizontal, beaked at base.

D. cuneifolia, Pursh, 1. p. 148.
Pyxidanthera barbulata, Mich. 1. p. 152.

Plant small, creeping, shrubby: the branches assurgent, short, 1 flowered. *Leaves* very acute, very hairy near the base; the upper crowded near the base of the flower. *Calyx* fringed. *Flowers* small, white. Mich.

Grows in the mountains of Carolina.
Flowers June—August.

VILLARSIA. GMELIN. SYST. VEG. 447.

Capsula 1-locularis, 2-valvis. *Corolla* rotata; laciniis basi barbatis, margine inflexis. *Stigma* 2-lobum. *Glandulæ* 5, staminibus alternæ.

Capsule 1 celled, 2 valved. *Corolla* rotate; segments bearded at base, with the margins inflexed. *Stigma* 2 lobed. Five *glands* alternating with the stamens.

1. CORDATA. E.

V. foliis cordatis, integerrimis; petiolis floriferis. E.

Leaves cordate, very entire; petioles bearing the flowers.

Grows in shallow streams. *Petioles* 2—6 inches long, slender, glabrous. *Leaves* about an inch long, exactly cordate, variegated. *Flowers* in lateral clusters, bursting from the petioles near the leaf. *Peduncles* an inch long. *Calyx* dotted, persistent: segments lanceolate, acute, entire. *Corolla* campanulate, membranous; border 5 cleft; segments round. *Filaments* inserted into the tube of the corolla, as long as the tube. *Anthers* erect, 4 celled, *Nectaries* 5, hairy, inserted into the tube of the corolla, alternating with the filaments.

Found in Savannah Hunt, a small stream a little below Granby, South-Carolina. Found near Augusta, by Dr. Wray.

Flowers July—September,

2. TRACHYSPERMA.

V. foliis peltato-reniformibus, subcrenatis, coriaceis; petiolis floriferis. E.

Leaves reniform, somewhat peltate, slightly crenate, coriaceous; petioles bearing the flowers.

Menyanthes trachysperma, Mich. 1. p. 126.
Anon. aquatic. Walt. p. 109.

Root perennial. *Stem* properly 0. *Leaves* peltate, frequently orbicular, 3—4 inches in diameter, glabrous above, underneath purple, covered with vesicular points. *Petioles* very long, dotted, sometimes roughened. *Flowers* clustered, bursting from the petiole near the leaf. *Peduncle* about 2 inches long. *Calyx* deeply 5 parted, persistent, spotted; segments oblong, connivent after flowering. *Corolla* 1 petalled, white, marcescent, 5 cleft, tube shorter than the calyx, yellow, border twice as long; segments oblong, plaited in the middle, membranous along the margins. *Filaments* very short, inserted into the tube of the corolla. *Anthers* sagittate, erect, yellow. *Nectaries* 5, hairy, attached to the tube of the corolla by short pedicels attenuating with the filaments; hairs jointed, yellow. *Germ* superior, conic. *Style* very short. *Stigma* concave, (somewhat 2 lobed, Mich.) with the margins fimbriate. *Capsule* furrowed, 1 celled, 2 valved, sometimes 3? *Seeds* orbicular, compressed, roughened.

Grows in ponds and streams, sometimes found in water 6—8 feet deep.

Flowers June.

HOTTONIA. Gen. pl. 265.

Capsula 1-locularis. *Corolla* hypocrateriformis. *Stamina* tubo corollæ imposita. *Stigma* globosum.

Capsule 1 celled. *Corolla* hypocrateriform. *Stamens* inserted on the tube of the corolla. *Stigma* globose.

1. Inflata. E.

H. scapis internodiis inflatis; floribus pedunculatis; corollis calyce brevioribus; foliis confertis, pectinatis, submersis, laciniis linearibus. E.

The internodes of the scape inflated; flowers footstalked; corolla shorter than the calyx; leaves crowded, pectinate, submersed, with the segments linear.

H. palustris? Pursh, 1. p. 138.

Stem thick, spungy, generally submersed. *Leaves* long, irregularly crowded, beautifully pectinate. From the summit of the stem arise several (6—10) naked flower-stalks or scapes. *Scapes* jointed towards the summit, the space between the joints, but particularly the space below the flowers, inflated. *Flowers* verticillate, generally 4 in each whorl. *Peduncle* nearly half an inch long. *Calyx* 5 parted. *Corolla* white, apparently shorter than the calyx. *Capsule* globose.

From specimens sent me from Milledgeville, Georgia, by Dr. Boykin. Seen in the western districts of Georgia, by Dr. Baldwin.

Flowers

HYDROPHYLLUM. Gen. pl. 267.

Capsula 1-locularis, 2-valvis. *Corolla* campanulata, interne striis 5, mel-

Capsule 1 celled, 2 valved. *Corolla* campanulate, with 5 longitudinal liferis, longitudinalibus. *Stigma* 2-fidum.

honey bearing streaks within. *Stigma* 2 cleft.

1. VIRGINICUM.

H. glabriusculum; foliis pinnatifidis pinnatisque: laciniis ovali-lanceolatis, inciso-serratis; fasciculis florum conglomeratis Pursh, 1. p. 194.

Glabrous; leaves pinnatifid and pinnate; segments oval-lanceolate, with deep serratures; clusters of flowers crowded.

Sp. pl. 1. p. 814. Mich. 1. p. 134.

Perennial. *Plant* 2 feet high, nearly glabrous. *Leaflets* lanceolate, irregularly toothed and notched. Clusters of *flowers* lateral and axillary, very compact. Segments of the *calyx* linear. *Corolla* blue.

Grows in shaded rocky situations. Pursh.

Flowers May—June.

LYSIMACHIA. GEN. PL. 269.

Corolla rotata. *Capsula* globosa, mucronata, 10-valvis.

Corolla rotate. *Capsule* globose, mucronate, 10 valved.

1. HERBEMONTI. E.

L. floribus racemosis, terminalibus, inferioribus verticillatis, superioribus sparsis; foliis quaternis, ovato-lanceolatis, sessilibus, trinervibus E..

Flowers in terminal racemes, the lower verticillate, the upper scattered; leaves by fours, ovate-lanceolate, sessile, three nerved.

Root perennial. *Stem* erect, 2 feet high, columnar, glabrous. *Leaves* generally by fours, ovate-lanceolate, sessile, 3—5 nerved, the 2 exterior generally obscure, entire, glabrous, dotted. *Flowers* in terminal racemes, the lower flowers verticillate, the upper alternate. *Peduncles* 4—6 lines long. *Calyx* 5 parted; segments linear-lanceolate. *Corolla* 1 petalled, tube very short, segments 5, oblong-lanceolate, dotted, much longer than the calyx. *Filaments* 5, shorter than the corolla, dilating and cohering at base. *Style* as long as the stamens.

An ornamental plant which merits culture.

Grows near Columbia, South-Carolina. Mr. Herbemont.

Flowers

2. QUADRIFOLIA.

L. foliis quaternis, ovato-acutis, subsessilibus; pedunculis axillaribus, unifloris, foliis brevioribus. E.	Leaves by fours, ovate acute, nearly sessile; peduncles axillary, 1 flowered, shorter than the leaves.

Sp. pl. 1. p. 818. Pursh, 1. p. 135.
L. punctata, Walt. p. 92.
L. hirsuta, Mich. 1. p. 127.

Stem erect, columnar, hairy. *Leaves* hairy along the margin and midrib, thickly sprinkled with glandular dots. *Flowers* axillary. *Peduncles* scarcely more than half as long as the leaves. Segments of the *calyx* small, lanceolate, dotted, pubescent. *Corolla* larger than the calyx. *Stamens* shorter than the corolla. *Filaments* cohering at base.

Varies with the leaves proportionally longer, more acuminate, thinner in their texture: and with glandular dots, which are very numerous and generally circular in the former variety, but in this more distant and oblong, and form small lacunæ from which the veins distinctly originate: the peduncles too in this are generally longer.

Grows in the middle and upper parts of Carolina and Georgia.

Flowers May—July.

3. LANCEOLATA. Pursh.

L. glaberrima; foliis quaternis, subpetiolatis, lanceolatis, promisse acuminatis; pedunculis quaternis, multifloris; floribus summis racemosis. Pursh, 2. p. 729.	Very smooth; leaves by fours, rather petiolate, lanceolate, prominently acuminate: peduncles by fours, many flowered; the upper flowers in racemes.

Stem erect, simple. Segments of the *corolla* ovate, acute. Pursh.

Collected in Carolina by Catesby; described by Pursh from specimens in the Herbarium of Sherard.

4. CILIATA.

L. foliis petiolatis, quaternis, cordato-ovatis, su-	Leaves petiolate, by fours, cordate ovate, up-

perioribus lanceolatis; petiolis ciliatis; floribus cernuis. E.	per lanceolate; petioles ciliate; flowers nodding.

L. hybrida? Mich. 1. p. 126. Pursh, 1. p. 136.
Walt. p. 92.
L. quadrifolia, *var. b.* Sp. pl. 1. p. 818.

Root creeping? perennial. *Stem* 2 feet high, erect, branching, square, furrowed, glabrous. *Leaves* opposite, the upper ones by threes or fours, glabrous, the margins nfiely renculate; petioles 1—1½ inch long, ciliate. *Peduncles* 1 flowered, 2 inches long, with the stem and petioles sprinkled with black dots. Segments of the *calyx* lanceolate, acuminate, obscurely 3 nerved. Tube of the *corolla* very short, composed of a purple ring, sprinkled with yellow glands, and 5 toothed on the inner side; segments rounded, toothed, mucronate, slightly ciliate at base, and longer than the calyx. *Filaments* inserted between the teeth of the annular tube of the corolla, much shorter than the corolla. *Anthers* erect, 2 lobed. *Germ* superior, globose. *Style* as long as the stamens. *Stigma* obtuse. *Seed* ovate, glabrous.

Grows in rich soils, high river swamps; rare in the immediate vicinity of the ocean.

Flowers June—July.

5. Quadriflora. Sims.

L. foliis oppositis, sessilibus, linearibus, longissimis; pedunculis quaternis, terminalibus, unifloris. Bot. Mag. 660.	Leaves opposite, sessile, linear, very long; peduncles by fours, terminal, 1 flowered.

L. angustifolia? Mich. 1. p. 128.
L. longifolia, Pursh, 1. p. 135.

Stem 2—3 feet high, branching, furrowed, glabrous. *Leaves* of the stem opposite, very long, linear lanceolate, not dotted, narrowed at base almost to a petiole, and dilated as the base embraces the stem; a few hairs are scattered under the dilated base; at the extremity of each branch 4—6 smaller leaves form a whorl. *Flowers* 4—6, terminal, on peduncles longer than the leaves. Segments of the *calyx* long, lanceolate, acuminate. Segments of the *corolla* acuminate, slightly crenate, longer than the calyx. *Capsule* 5? valved. *Seeds* 3 angled, nestling in compartments in a central receptacle.

Grows in St. John's. Dr. Macbride.

Flowers

6. HETEROPHYLLA. Mich.

L. foliis oppositis, imis suborbiculatis, superioribus linearibus, sessilibus; floribus cernuis.	Leaves opposite, the lower nearly orbicular, the upper linear, sessile; flowers nodding.

Mich. 1. p 127. Pursh, 1. p. 136.
L. lanceolata ? Walt. p. 92.

Root perennial. *Stem* erect, 12—18 inches high, somewhat angled, glabrous, branching. *Leaves* as they ascend, becoming gradually more narrow, glabrous, ciliate near the base, thick, opake. *Flowers* axillary; peduncles shorter than the leaves, one flowered. Segments of the *calyx* lanceolate, acuminate. Segments of the *corolla* scarcely longer than the calyx, crenate, mucronate ?

Grows in swamps or damp clayey soils, in the middle and low country of Georgia and Carolina, but not in the immediate vicinity of the ocean.

Flowers June—August.

ANAGALLIS. GEN. PL. 270.

Corolla rotata. *Capsula* 1-locularis, circumscissa.	*Corolla* rotate. *Capsule* 1 celled, circumscissed.

1. ARVENSIS.

A. foliis indivisis; caule procumbente. Sp pl. 1. p. 821.	Leaves undivided; stem procumbent.

Pursh, 1. p. 135.

Root annual. *Stem* 6—12 inches long, procumbent. *Leaves* opposite, sessile, ovate-lanceolate, entire, obscurely nerved. *Flowers* solitary, axillary, opposite. *Peduncle* twice as long as the leaf. *Calyx* 5 parted, persistent; segments linear lanceolate, very acute. *Corolla* 5 parted, red; segments oval, crenulate, longer than the calyx. *Filaments* shorter than the corolla. *Germ* superior. *Style* filiform, as long as the stamens. *Stigma* simple, obtuse.

Imported originally from Europe, now naturalized and gradually extending over the United States. Found on Sullivan's Island, growing freely between the sand-hills.

Flowers June—July.

PHACELIA. Juss.

Calyx 5-fidus. *Corolla* 5-fida. *Stamina* exserta. *Capsula* 2-locularis, 2-valvis, 4-sperma.	*Calyx* 5 cleft. *Corolla* 5 cleft. *Stamens* exserted. *Capsule* 2 celled, 2 valved, 4 seeded.

1. Fimbriata. Mich.

P. foliis pinnatifidis, lobis indivisis ; corollæ lobis margine fimbriatis.	Leaves pinnatifid, the lobes undivided ; segments of the corolla fimbriate.

Mich. 1. p. 134. Pursh, 1. p. 140.

The whole plant, but particularly the margins of the leaves and calyx hispid. *Root* perennial, cespitose. *Stem* assurgent, seldom branched, 6—12 inches high. *Leaves* alternate, the upper pinnatifid, sessile, the lower almost pinnate and petiolate. *Flowers* in a simple terminal raceme, revolute before flowering, becoming erect afterwards. *Calyx* persistent. *Style* 2 cleft, longer than the stamens. *Stigmas* simple.

From specimens sent from Athens, Georgia, by Mr. Green.

Flowers

SPIGELIA. Gen. pl. 272.

Corolla infundibuliformis. *Capsula* didyma, 2-locularis, polysperma.	*Corolla* funnel shaped. *Capsule* didymous, 2 celled, many seeded.

1. Marilandica.

S. caule tetragono ; foliis omnibus oppositis. Sp. pl. 1. p. 825.	Stem square ; leaves all opposite.

Walt. p. 92.
Mich. 1. p. 147.

Root fibrous, perennial. *Stem* herbaceous, 6—20 inches high, branching near the base, slightly winged, towards the summit pubescent. *Leaves* sessile, ovate-lanceolate, acute, with the margins and veins underneath pubescent. *Flowers* in a simple, terminal, secund raceme. *Calyx* 5 leaved, persistent, leaves subulate, acute, finely serrulate. *Corolla* 1 petalied, tube angled, ventricose, 5 times as long as the calyx, yellow within, crimson without; border 5 cleft; segments acute, somewhat expanded. *Filaments* shorter than the corolla, inserted into the tube between the segments. *Anthers* oblong, cordate, 2 celled, yellow. *Germ* superior, ovate. *Style* longer than the corolla, *jointed* near its base. *Stigma* simple, obtuse.

I have a specimen sent me by Dr. Macbride from St. John's, which flowered in October, with *obovate, obtuse*, and somewhat *verticillate leaves;* but on removing the root of the same plant to a different soil, it bloomed the succeeding spring, and proved to be only an accidental variety.

Besides its medical uses, the Spigelia merits a place in a flower garden as an ornamental plant.

Grows in rich dry soils.

Flowers May—July. *Carolina pink. Pink-root.*

The use of this plant as a medicine was learnt by the early settlers of this State from the Indians. It is now in common use, both on this and the eastern continent, as a remedy for worms in children. The whole plant is usually employed, but the root is believed to possess most power.

The cathartic effect is so uncertain, that it is necessary to give, either with or after it, some more active purgative. The taste of the Spigelia is sweetish or insipid. The usual dose for a child of seven years old, is twenty grains of the powdered root. Most physicians in this country combine calomel with it.

The Spigelia often acts as a narcotic or sedative, inducing stupor; but this effect is seldom or never attended with danger; indeed, many physicians consider it as an evidence of the favourable operation of the medicine. It has been falsely ascribed to the roots of some deleterious plant, taken up with those of the Spigelia. The small black fibres generally pointed out as such, prove to be nothing more than the decayed roots of the Pink, which are always visible, especially in spring, the usual time of collecting this article.

OPHIORRHIZA. Gen. pl. 273.

Corolla infundibuliformis. *Germen* 2-fidum. *Stigmata* 2. *Fructus* bilobus.	*Corolla* funnel shaped. *Germ* 2 cleft. *Stigmas* 2. *Fruit* 2 lobed.

1. Mitreola.

O. foliis ovatis, sessilibus, marginibus scariosis. E.	Leaves ovate, sessile, with the margins scarious.

Sp. pl. 1. p. 826. Mich. 1. p. 148.
Anon. sessilifol. Walt. p. 108.
O. ovatifolia, Muhl. Cat.

Root annual. *Stem* erect, 12—18 inches high, somewhat square, sparingly branched, scabrous near the summit, smooth below. *Leaves* opposite, appressed, rounded at base, slightly acuminate. *Flowers* in terminal and lateral cymes? composed of dichotomous, secund spikes, at first erect, afterwards recurved. *Calyx* 1 leaved, persistent; border 5 cleft; segments linear. *Corolla* 1 petalled, white, deciduous, not longer than the calyx, tube very short, the throat closed with jointed hairs; segments acute, expanding. *Filaments* inserted into the tube of the corolla, very short. *Germ* superior, ovate, furrowed. *Style* as long as the stamens. *Stigma* capitate. *Capsules* 2, united at the base and points, open in the middle, 1 celled, not opening. *Seeds* many, ovate, small, attached to a receptacle on the interior side of each capsule.

Grows in damp soils.
Flowers July—August.

2. LANCEOLATA.

O. foliis longo-lanceolatis, serrulatis, basi attenuatis. E.	Leaves long lanceolate, finely serrulate, tapering at base.

Anon. petiolat. Walt. p. 108.
O. Mitreola, Muhl. Cat.

Root annual. *Stem* 18 inches high, square, with the angles rounded, 4 furrowed, slightly branched, glabrous. *Leaves* opposite, acuminate, smooth and glaucous on the under surface, the upper scabrous; tapering at base to a short petiole. Tube of the *corolla* purple, as long as the calyx, the throat closed with hairs; border white, segments acute. *Stigma* capitate, not 2 cleft.

This has been considered by Dr. Muhlenberg as the O. mitreola, although the specific character, "foliis ovatis" is only applicable to the preceding species. It is however not improbable that the O. Mitreola of Swartz, a native of the West-Indies, is really distinct from both.

Grows in damp soils. Very common.
Flowers August—September.

AZALEA.

Corolla campanulata. *Stamina* receptaculo inserta. *Capsula* 5-locularis. *Stigma* obtusum.	*Corolla* campanulate. *Stamens* inserted on the receptacle. *Capsule* 5 celled. *Stigma* obtuse.

1. CALENDULACEA. Mich.

A. subnudiflora; foliis oblongis, utrinque pubescentibus, adultis hirsutis; floribus amplis, non viscosis; calycis dentibus	Flowers rather naked; leaves long, pubescent on both sides, when full grown hirsute; flowers large, not viscid; the teeth

oblongis; corolla tubo hirsuto laciniis breviore. Pursh, 1. p. 151.	of the calyx oblong; corolla with the tube shorter than the segments.

Mich. 1. p. 151.
A. nudiflora, *var. coccinea*, Hort. Kew.

A shrub 2—6 feet high. *Leaves* deciduous.

Var. a. with flowers flame coloured, sometimes variegated with yellow.
b. flowers bright yellow.
c. flowers rose coloured.

Grows in light sandy soils—*a.* on the borders of Ebenezer Creek, and in the western districts of Georgia—*b.* on the higher mountains of Virginia and Carolina—*c.* at the Tocoa Falls, Georgia.
Flowers April—June.

2. CANESCENS. Mich.

A. sub nudiflora; foliis obovato-oblongis, supra pubescentibus, subtus tomentosis, nervo non setigero; floribus non viscosis, tubo laciniis vix breviore; calycis dentibus brevissimis, rotundato-obtusis; staminibus vix exertis. Pursh, 1. p. 152.	Flowers rather naked; leaves obovate, pubescent above, beneath tomentose, with the nerve unarmed; flowers not viscid, with the tube scarcely shorter than the segments; the teeth of the calyx very short, obtuse and rounded; the stamens scarcely longer than the tube.

Mich. 1. p. 150.
A. nudiflora, Lin.

Flowers rose coloured.
Grows on the banks of rivers in lower Carolina. Mich.
Flowers April—May.

3. BICOLOR. Pursh.

A. nudiflora; foliis oblongis, utrinque tenuissime cano-pubescentibus, nervo non setigero; floribus parvis non viscosis, tubo laciniis vix longiore;	Naked flowered; leaves oblong, covered on both sides with very fine whitish hairs, the nerve not bristly; flowers small, not viscid, the tube scarcely

calycibus brevissimis, lacinia unica lineari, reliquis quadruplo longiore; filamentis exertis; ramulis piloso-hispidis. Pursh, 1. p. 153.

longer than the segments *of the corolla;* calyx very short, one of its segments narrow, and four times longer than the rest; filaments longer than the tube; smaller branches hairy and hispid.

A. nudiflora, *var. bicolor*, Hort. Kew. 1. p. 319.

Flowers slender and smaller than the rest, of a pale rose colour, or nearly white, with a deep red coloured tube.

Grows on barren sandy hills, in Carolina and Georgia.

Flowers May—June.

4. NUDIFLORA.

A. subnudiflora; foliis lanceolato-oblongis, pubescentibus, nervo subtus setigero; corollis pilosis; staminibus longissime exertis.

Flowers rather naked; leaves lanceolate oblong, pubescent, the nerve beneath bristly; corolla hairy; stamens much longer than the tube of the corolla.

Sp. pl. 1. p. 831. Walt. p. 97.
A. periclymenoides, Pursh, 1. p. 152.

A shrub 2—8 feet high, producing many stems from the root. *Stem* branching towards the summit, the young branches pubescent. *Leaves* alternate, crowded towards the summit of the branches on the new wood, variable ovate, lanceolate and obovate, slightly mucronate, the margins and under surface pubescent, the upper somewhat glabrous. *Flowers* in terminal, clustered racemes, beginning to open before the leaves are unfolded; peduncles about half an inch long, clothed with an obovate, white, very pubescent, caducous bractea. *Calyx* very small. Tube of the *corolla* long, pubescent, viscid; border 5 cleft, expanding; segments unequal. *Filaments* declining, unequal, inserted into the base of the germ, nearly twice as long as the corolla. *Anthers* incumbent, 2 lobed, opening through terminal pores. *Germ* superior, hairy. *Style* longer than the stamens. *Stigma* capitate.

This is one of the most beautiful plants which adorn the forests of North America. Some of its varieties are considered by many persons as the most ornamental of our shrubs. It has been subdivided into several species; three have been inserted from Michaux and Pursh, but their characters appear to me too indistinct and variable. I have endeavoured to establish characters on the size and proportion of the calyx, but I found it vary so much in individuals of the same variety as to baffle the effort, and indeed in plants so prone to vary, we must view with caution, irregularities that may arise from soil and exposure.

In the Hortus Kewensis the following *varieties* are mentioned, which include the three preceding species.

a. coccinea ; flowers scarlet.
b rutilans ; flowers deep red, calyx minute.
c. carnea ; flowers pale red, tube red at base, calyx leafy.
d. alba ; flowers white, calyx middle size.
e. bicolor ; border of the flower pale, tube red, calyx small, branches hairy.
f. papilionacea ; flowers reddish, the lower segments white, calyx leafy.
g. partita ; flowers flesh-coloured, divided to the base.

To which may be added,

h. lutea ; flowers bright yellow.

Grows in rich, dry soils, and along the margins of swamps and creeks.

Flowers March—May.

5. VISCOSA.

A. foliis margine scabris ; corollis piloso-glutinosis ; *staminibus vix corolla longioribus.* Sp. pl. 1. p. 831.

Leaves on the margin scabrous ; corolla hairy, glutinous ; stamens scarcely longer than the corolla.

Walt. p. 97. Mich. 1. p.

A shrub somewhat similar to the preceding, but not so beautiful, 3—6 feet high, young branches and dorsal nerves of the leaves hispid. *Leaves* lanceolate, oval, obovate, nearly glabrous, margins roughened. *Flowers* in terminal clustered racemes. *Calyx* minute. *Corolla* very hispid and viscid. *Stamens* scarcely as long as the corolla. *Style* longer than the stamens. *Stigma* capitate.

Of this species the following *varieties* are enumerated in the Hortus Kewensis, Vol. 1. p. 319.

a. odorata ; flowers white, branches diffuse, leaves deep green, and lucid.
b. vittata ; flowers white, keels flesh coloured, style long, red at the point, and leaves pale, ovate oblong.
c. fissa ; flowers white, divided at the base, leaves deep green, lucid.
d. floribunda ; flowers white, leaves glaucous underneath, style longer than the corolla.
e. glauca ; flowers white, leaves glaucous on both surfaces, the young leaves sprinkled with hair on the upper surface.

Grows in damp soils.

Flowers May—July.

PHLOX. Gen. pl. 284.

Corolla hypocrateriformis. *Filamenta* inæqualia. *Stigma* trifidum. *Calyx* prismaticus. *Capsula* 3-locularis, 1-sperma.	*Corolla* hypocrateriform. *Filaments* unequal. *Stigma* 3 cleft. *Calyx* prismatic. *Capsule* 3 celled, 1 seeded.

1. Acuminata. Pursh.

P. foliis inferioribus spathulato-ovatis, acuminatis, scabriusculis, superioribus lanceolatis; corymbis terminalibus. E.	Lower leaves spathulate ovate, acuminate, slightly scabrous. upper lanceolate; corymbs terminal.

Pursh, 2. p. 730.

Stem smooth, erect, a little roughened near the summit, 3—5 feet high. *Leaves* thin, membranous, scabrous on both surfaces, 2—4 inches long, 1—2½ wide. *Corymbs* few flowered. *Calyx* smaller than usual in this genus; the segments subulate, terminating in an awn. Segments of the *corolla* rounded, purple.

Described by Pursh from specimens collected among the mountains of Carolina and Georgia, by Mr. Lyon. Found also in the mountains of Carolina by Dr. Macbride.

I have another specimen which appears te be referable to this species, with smaller leaves, very scabrous, and on the under surface nearly hispid, found by Dr. Macbride in the upper districts of Carolina.

Flowers August—September.

2. Paniculata.

P. foliis lanceolatis, planis, margine scabris; caule lævi; corymbis paniculatis; corollæ laciniis rotundatis; calycibus aristatis. Sp. pl. 1. p. 839.	Leaves lanceolate, flat, the margins scabrous; stem smooth; corymbs paniculate; segments of the corolla rounded; calyx awned.

Pursh, 1. p. 148.

Root perennial. *Stem* erect, 2 feet high. *Leaves* opposite, the upper generally ovate lanceolate, acuminate. *Corymbs* opposite;

numerous: flowers somewhat paniculate. *Calyx* pubescent? 5 cleft; segments tapering to an awn. Tube of the *corolla* 2 or 3 times as long as the calyx. *Filaments* unequal, very short, inserted into the tube of the corolla. *Anthers* linear, incumbent, 2 celled. *Germ* superior, ovate. *Style* filiform, nearly as long as the stamens. *Stigma* hispid.

Grows in the upper districts of Carolina.

Flowers June—July.

3. UNDULATA.

P. erecta, glabra; foliis oblongo-lanceolatis, subundulatis, margine scabris; corymbis paniculatis; corollæ laciniis obovatis, subretusis; calycibus aristatis. Pursh, 1. p. 143.	Erect, glabrous; leaves oblong lanceolate, slightly waved, with the margins scabrous; corymbs paniculate; segments of the corolla somewhat retuse; calyx awned.

Sp. pl. 1. p. 840.
P. paniculata? Mich. 1. p. 144.

A handsome plant, taller than the preceding species. Pursh. *Flowers* blue.

Grows in vallies, among high mountains of Carolina.

Flowers July—August.

4. PYRAMIDALIS. Smith.

P. erecta, glabra; caule scabro; foliis cordato-ovatis, acutis; panicula fastigiata, pyramidalis; corollæ laciniis cuneato-truncatis; dentibus calycinis suberectis, lanceolatis, acutis. Pursh, 1. p. 148.	Erect, glabrous; stem scabrous; leaves cordate ovate, acute; panicle fastigiate, pyramidal; segments of the corolla wedge shaped, truncate; teeth of the calyx erect, lanceolate, acute.

Smith. Exot. Bot. 2. p. 55.
P. latifolia? Mich. 1. p. 143.

Grows in mountain meadows, from Pennsylvania to Carolina. Pursh. *Flowers* beautiful purple.

Flowers June—August.

5. CORDATA.

P. foliis oblongo-cordatis, subacuminatis, margine scabris; corymbis paniculatis; calycibus longe aristatis. E.

Leaves oblong cordate, slightly acuminate, with the margins scabrous; corymbs paniculate; segments of the calyx terminating in long awns.

Stem erect, 1—2 feet high, smooth. *Leaves* cordate, slightly auriculate, tapering to the summit. *Corymbs* numerous near the summit, somewhat paniculate. Segments of the *calyx* terminating in an awn as long as the tube. Tube of the *corolla* four times as long as the calyx.

In the structure of the corymbs this species has much affinity to the P. paniculata; but its leaves are uniformly cordate.

Found by Dr. Macbride in the upper districts of Carolina.

Flowers August.

6. MACULATA.

P. foliis oblongo lanceolatis, glabris, margine scabris; caule scabriusculo; racemo corymboso; dentibus calycinis acutis.

Leaves oblong lanceolate, glabrous, with the margins scabrous; stem scabrous; racemes corymbose; teeth of the calyx acute.

Sp. pl. 1. p. 840. Walt. p. 97. Mich. 1. p. 143. Pursh, 1. p. 149.

Root perennial, *Stem* erect, 2 feet high, terete, sprinkled with glandular hairs, purple dotted with green. *Leaves* sessile, ovate lanceolate, acute, the margins scabrous, contracted at base into a very short footstalk. *Corymbs* few flowered, alternate, clustered near the summit of the stalk. *Calyx* angled; segments subulate, acuminate. Tube of the *corolla* 3 or 4 times longer than the calyx; segments of the border obovate, rounded.

Grows in shaded places, preferring dry, rich soils.

Flowers May—July, sometimes in October.

7. SUAVEOLENS.

P. foliis ovato-lanceolatis, undique lævibus; caule glaberrimo; racemo

Leaves ovate lanceolate, smooth; stem glabrous; racemes panicu-

paniculato; dentibus calycinis lanceolatis, acutis. Sp. pl. 1. p. 840.	late: teeth of the calyx lanceolate, acute.

Pursh, 1. p. 149.
P. maculata, *var. b.* Mich. 1. p. 148.

Root perennial. *Stem* erect, 2 feet high, glabrous below, pubescent near the summit. *Leaves* very entire, the young finely serrulate. Segments of the *calyx* somewhat mucronate; of the *corolla* obovate. *Corolla* white.

If the plant above described, and which I have cultivated, is the real P. suaveolens of the Hort. Kew. it appears to be too nearly allied to the P. maculata: although the stem and leaves are more glabrous, and the segments of the calyx perhaps more acuminate, the characters are scarcely distinct enough to mark a species.

Found near Savannah, by Mr. Oemler.
Flowers June—July.

8. Carolina.

P. caule pubescente; foliis ovato-lanceolatis, glabris; corymbis fastigiatis, ramulis subtrifloris; dentibus calycinis lineari-lanceolatis. Pursh, 1. p. 149.	Stem pubescent; leaves ovate lanceolate, glabrous; corymbs fastigiate, the branches generally 3 flowered; teeth of the calyx linear lanceolate.

Sp. pl. 1. p. 841. exclus. syn.
P. triflora? Mich. 1. p. 143.

Stem erect. *Leaves* tapering, acute. Branches of the *corymb* somewhat scattered, 3—5 flowered. *Calyx* glabrous. Segments of the *corolla* rounded, purple.

Grows in the upper districts of Carolina. Mich.
Flowers July—September.

9. Nitida. Pursh.

P. erecta, glaberrima; caule scabro; foliis ovato-oblongis, subcoriaceis; corymbis fastigiatis; corollæ laciniis obovatis, subretusis; dentibus ca-	Erect, glabrous; stem scabrous; leaves ovate oblong, somewhat coriaceous; corymbs fastigiate; segments of the corolla obovate, slightly re-

lycinis lanceolatis, mucronatis. Pursh, 2, p. 730.

tuse; segments of the calyx lanceolate, mucronate.

P. Carolina, Walt. p. 96.

Root perennial. *Stem* erect, 18—24 inches high, scabrous, with the joints unusually close. *Leaves* ovate and lanceolate, nearly coriaceous, 2—3 inches long, 1 wide, dark green on the upper surface, pale underneath. *Corymbs* numerous, many flowered. Segments of the *calyx* linear lanceolate, acuminate, slightly mucronate. Segments of the *corolla* obovate, dark purple.

This has generally been considered in this country as the P. Carolina, and the synonymes under that species in the Sp. pl. from Miller and Martyn's Cent. 10. t. 10. evidently refer to this plant. Linnæus however may have united two species under his P. Carolina.

Grows near Columbia, South-Carolina. Mr. Herbemont.

Flowers May—June.

10. GLABERRIMA.

P. foliis lineari-lanceolatis, glabris; caule erecto; corymbo terminali, subfastigiata; dentibus calycinis acutis.

Leaves linear lanceolate, glabrous; stem erect; corymb terminal, nearly fastigiate; teeth of the calyx acute.

Sp. pl. 1. p. 841. Mich. 1. p. 142. Pursh, 1. p. 149.

Root perennial. *Stem* erect, 1—2 feet high, very smooth. *Leaves* linear, long, very smooth, somewhat rigid, 2—3 inches long, 1—2 lines wide. *Corymbs* small. Segments of the *calyx* linear lanceolate, acute; of the *corolla* nearly round.

I have a specimen with the leaves wider than the one described, and scabrous along the margins.

Grows in flat pine barrens, from Coosawhatchie to Purysburgh. Common.

Flowers May—June.

11. ARISTATA. Mich.

P. pubescens; foliis linearibus; corymbis paucifloris; calycibus longe aristatis.

Pubescent; leaves linear; corymbs few flowered; segments of the calyx terminating in long awns.

Mich. 1. p. 144. Pursh, 1. p. 150.

Plant slender, erect. *Leaves* linear, erect or appressed. Tube of the *corolla* slightly curved; segments obovate. Segments of the *calyx* terminating in an awn more than half the length of the tube of the corolla.

Grows in the upper country of Carolina. Dr. Macbride.

Flowers May—June.

12. PILOSA.

P. foliis lineari-lanceolatis, pubentissimis, marginibus revolutis; corymbis subfastigiatis, bracteatis; dentibus calycinis subulatis, acutis. Sp. pl. 1. p. 140.	Leaves linear lanceolate, very downy, with the margins revolute; corymbs nearly fastigiate, bracteate; teeth of the calyx subulate, acute.

Mich. 1. p. 145?

Root perennial. *Stem* 12—18 inches high, generally erect, villous, tinged with purple, the pubescence white. *Leaves* erect, sessile, somewhat ovate, acute, scabrous, pubescent, the midrib very conspicuous, 1—2 inches long, 2—3 lines wide. *Corymbs* nearly sessile, 5—6 flowered, surrounded by 3 or 4 ciliate leaves, as if bracteated. Segments of the *calyx* subulate, very acute, hairy; of the *corolla* obovate, frequently acute, bright purple. *Style* shorter than the stamens.

Grows in moderately dry, and rich soils. Very common in Chatham county, Georgia.

Flowers March—April.

13. AMŒNA. Sims.

P. hirsuta; caulibus assurgentibus; foliis ovato-lanceolatis; dentibus calycinis subulatis; corolla glabra, lobis obtusis.	Hirsute; stems assurgent; leaves ovate lanceolate; teeth of the calyx subulate; corolla glabrous, with the lobes obtuse.

Bot. Magazine, No. 1308.
P. pilosa, Walt. p. 96.
— ——— Mich. 1. 145.

Stem decumbent. *Leaves* lanceolate. *Corymbs* many flowered. *Corolla* bright purple; segments obtuse.

As I am only acquainted with this species through the medium of the Botanical Magazine, I cannot speak of it with certainty. It appears to differ from P. pilosa, by its lanceolate leaves, the obtuse segments of its corolla, perhaps by the want of bracteal leaves, and the colour of the pubescence. which is white in the pilosa, giving the plant a hoary aspect. This appears to be the plant described both by Walter and Michaux as the P. pilosa.

Grows near the Santee Canal, where it was collected by Mr. Fraser, and carried to Europe.

Flowers April ?—May.

14. DIVARICATA ?

P. foliis ovali-lanceolatis, superioribus alternis ; ramulis divaricatis, laxis, paucifloris ; corollæ laciniis subobcordatis ; dentibus calycis subulatis. Pursh, 1. p. 150.	Leaves oval lanceolate, the upper alternate ; branches divaricate, loose, few flowered ; segments of the corolla slightly obcordate ; teeth of the calyx subulate.

Sp. pl. 1. p. 841.

Stem 1—2 feet high, nearly erect, very smooth. *Leaves* remote, sessile, ovate, membranous. *Flowers* in each corymb few, scattered so as to appear solitary, particularly when the capsules are mature. Segments of the *calyx* long, subulate ; of the *corolla* obovate ?

Found in the swamps of Savannah River, about 40 miles above the city of Savannah.

Flowers April.

15. REPTANS. Mich.

P. pubescens, stolonibus repentibus ; foliis spathulato-obovatis ; corymbo paucifloro ; dentibus calycinis subulatis, reflexis.	Pubescent, with creeping suckers ; leaves spathulate obovate ; corymb few flowered ; the teeth of the calyx subulate, reflexed.

Mich. 1. p. 145.
P. stolonifera, Bot. Mag. 563. Pursh, 1. p. 153.

Root perennial. *Stem* erect, 12—18 inches high, pubescent. Stem *leaves* oval lanceolate. *Leaves* on the creeping suckers obovate, pubescent. *Corymbs* few flowered. Segments of the *calyx* subulate pubescent. Segments of the *corolla* obovate, nearly rounded.

Grows in the mountains of Carolina. Mich. For my specimens of this plant I am indebted to Mr. Oemler, who collected them in Maryland.

Flowers

16. SUBULATA.

P. procumbens, hirsuta; foliis subulatis, ciliatis; corymbis paucifloris; corollæ laciniis cuneatis, emarginatis; dentibus calycis subulatis tubo corollæ vix brevioribus. Pursh, 1. p. 151.

Procumbent, hirsute; leaves subulate, ciliate; corymbs few flowered; segments of the corolla cuneate, emarginate; teeth of the calyx subulate, scarcely shorter than the tube of the corolla

Sp. pl. 1. p. 842. Walt. p. 96. Mich. 1. p.

Root perennial, creeping. *Stem* procumbent, assurgent, branching, very hairy. *Leaves* about an inch long, subulate, mucronate, very hairy; the lower opposite, fasciculate, the upper somewhat alternate. *Flowers* axillary, somewhat solitary, crowded so as to resemble a corymb. *Calyx* hairy, segments linear, very acute. Tube of the *corolla* twice as long as the calyx; segments of the border wedge shaped, emarginate, of a pale rose colour, bright at base. *Style* very short. *Stigmas* simple, acute.

Grows in dry and light soils in the middle and upper country. Perhaps the most elegant species of this beautiful family.

Flowers February—May.

17. SETACEA.

P. procumbens, hirsuta; foliis fasciculatis, subulatis, ciliatis; pedicellis paucis, subumbellatis; corollæ laciniis cuneatis, emarginatis; dentibus calycis subulatis, tubo corollæ triplo brevioribus. Pursh, 1. p. 151.

Procumbent, hairy; leaves fasciculate, subulate, ciliate; pedicels few flowered, somewhat umbelled; segments of the corolla cuneate, emarginate; teeth of the calyx subulate, much shorter than the tube of the corolla.

Sp. pl. 1. p. 842. Bot. Mag. 415.

Stem procumbent, assurgent. *Leaves* longer, and for the most part finer and more hairy than those of the P. subulata. *Flowers* generally solitary, forming small terminal corymbs. *Corolla* large; segments of the corolla wedge shaped, emarginate.

Found in Carolina by Mr. Fraser.

Flowers April—May.

CONVOLVULUS.

Corolla campanulata, plicata. *Stigmata* 2. *Capsula* 2-locularis; loculis dispermis.

Corolla campanulate, plicate. *Stigmas* 2. *Capsule* 2 celled; cells 2 seeded.

* *Caule prostrato vel non volubili.*

* *Stem prostrate or not twining.*

1. TENELLUS.

C. foliis ellipticis, mucronatis, basi subcordatis; pedunculis multifloris, foliis longioribus; stylo bipartito. Sp. pl. 1. p. 861.

Leaves elliptic, mucronate, somewhat cordate at base; peduncles many flowered, longer than the leaves; style 2 parted.

C. humistratus, Walt. p. 94.
C. trichosanthes, Mich. 1. p. 137. Pursh, 1. p. 143.

Root perennial. *Stem* prostrate, branching at base, hairy. *Leaves* entire, somewhat hairy, on very short footstalks. *Peduncles* axillary, twice as long as the leaves. *Flowers* (generally 3—5) fasciculated at the summit. *Bracteas* 2 at the summit of the common peduncle. *Calyx* 5 leaved, leaves oval, acuminate, ciliate, persistent. *Corolla* campanulate, small, white, externally hairy, with the margin obscurely 10 toothed. *Filaments* 5, (sometimes 6?) villous, equal, inserted into the tube of the corolla. *Anthers* sagittate, erect. *Germ* superior, ovate, villous at the summit, surrounded at base by a glandular orange coloured ring. *Style* longer than the stamens, deeply 2 cleft. *Stigmas* 2, globose. *Capsule* hairy, 4 celled, each cell one seeded.

Grows in dry sandy soils. Very common.

Flowers June—September.

Of this species, which is so distinct by its style cleft frequently to the very base, the late Dr. Brickell of Savannah, proposed to constitute a new genus. Mr. Le Conte more correctly considers it as the only real Convolvulus we possess; yet its stigmas are globose, and by its capsule it approaches very near to the genus Evolvulus.

2. AQUATICUS. Walt.

C. tomentosus; foliis oblongo-ovatis, subsessilibus; pedunculis subtri-

Tomentose; leaves oblong ovate, nearly sessile; peduncles general-floris, foliis triplo longioribus; stylo bipartito. E.

ly 3 flowered, 3 times as long as the leaves; style 2 parted.

Walt. p. 94.
C. trichosanthes, *var. patens*, Pursh, 1. p. 148.

This plant has much affinity to the preceding, but I concur with Walter, in considering them distinct. The whole plant is tomentose; the leaves narrower and longer; the peduncles almost uniformly 3 flowered; the corolla rose coloured, very hairy, and smaller than that of the C. tenellus; the capsule tomentose. Their *habitat* too is distinct. This grows in damp pine barrens, and around ponds in the middle country, in clayey soils.

Servern county, Louisville, Georgia; Mr. Jackson. St. Johns, Dr. Macbride.

Flowers through the summer.

3. SHERARDI.

C. humifusus, pubescens; foliis ellipticis, utrinque retusis, mucronatis; floribus solitariis, subsessilibus. Pursh, 2. p. 730

Prostrate, pubescent; leaves elliptic, retuse at each end, mucronate; flowers solitary, nearly sessile.

Described by Pursh from a specimen in Sherard's herbarium, collected in Carolina by Catesby. I have in my herbarium a specimen collected near Louisville, Georgia, by Mr. Jackson, in which the peduncles are uniformly 1 flowered, but they are as long as the leaves, and the plant appears to be only a variety of C. tenellus, from which this only differs by its shortened peduncles.

4. SPITHAMÆUS.

C. foliis cordato-ovalibus, pubescentibus, incanis; caule recto; pedunculis unifloris, foliis brevioribus. Sp. pl. 1. p. 873.

Leaves cordate oval, pubescent, hoary; stem straight; peduncles 1 flowered; shorter than the leaves.

Walt. p. 93.
C. stans? Mich. 1. p. 136.
Calystegia spithamæa, Pursh, 1. p. 143.

Stem erect, branching, pubescent. *Leaves* on very short petioles, oval, pubescent, the lower slightly cordate. *Flowers* solitary, axillary, on peduncles nearly as long as the leaf. (*Bracteas* much longer than the calyx. *Corolla* white. *Stigma* oblong. Mich.)

Grows in dry soils, Pennsylvania to Carolina. Pursh.

Flowers June—July.

5. OBTUSILOBUS. Mich.

C. caule prostrato ; foliis crassis, sinuato-lobatis, emarginatis ; lobis rotundatis ; pedunculis unifloris.	Stem prostrate ; leaves thick, sinuate, lobed, emarginate ; lobes rounded ; peduncles 1 flowered.

Mich. 1. p. 139. Pursh, 1. p. 144.

Root perennial. *Stem* herbaceous, glabrous, branching. *Leaves* alternate, nearly hastate ; the lateral lobes frequently bifid, obtuse, the middle lobe larger, obovate, all strongly veined, entire ; petioles 1—3 inches long. *Peduncles* longer than the leaves, furnished with two small stipules near the middle. *Calyx* acuminate, without bracteas, lactescent. *Corolla* large, white, with a yellow tube. *Filaments* much shorter thae the corolla, tomentose at base. *Style* as long as the stamens, 2 cleft at the summit. *Stigmas* 2, globose.

Grows on the sand hills exposed to the ocean.

Flowers August—October.

** *Caule volubili.*	** *Stem twining.*

6. PURPUREUS.

C. foliis cordatis, indivisis ; fructibus cernuis ; pedicellis incrassatis. Sp. pl. 1. p. 852.	Leaves cordate, undivided ; fruit nodding, on thickened footstalks.

Walt. p. 93.
Bot. Mag. No. 113.
Ipomœa purpurea, Pursh, 1. p. 146.

Root annual. *Stem* twining around small shrubs, hairy, sometimes ascending to a considerable height. *Leaves* strictly cordate, undivided, entire, slightly acuminate. *Peduncles* 1—3 flowered. *Calyx* hairy. *Corolla* funnel shaped, blue and purple, sometimes nearly white.

Very commn in gardens, and met with occasionally around enclosures. Appears to be an imported plant, not entirely naturalized.

Flowers through the summer. *Morning glory.*

7. MACRORHIZUS.

C. foliis cordatis, simplicibus lobatisque, ru-	Leaves cordate, simple and lobed, much

gosissimis, subtus pubescentibus: pedunculis 1—5 floris. E.	wrinkled, pubescent underneath; peduncles 1—5 flowered.

Ipomœa macrorhiza, Mich. 1. p. 141.
C. Jalapa ? Sp. pl. 1 p. 860.
Ipomœa Jalapa, Pursh, 1. p. 146.

Root perennial, somewhat fusiform, very large, weighing when old from 40 to 50 pounds, white, farinaceous, insipid. *Stem* twining around shrubs and fences, slightly angled, pubescent. The young *leaves* acute, and tomentose on the under surface, the old leaves frequently obtuse, and slightly muricate; petioles 1—2 inches long. *Peduncles* about 3 inches long, 1—5 flowered. *Calyx* pubescent. *Corolla* large; border obscurely 10 lobed, externally pubescent, white, tinged with purple. *Filaments* unequal, as long as the tube of the corolla, villous and purple at base. *Style* as long as the stamens, 2 cleft at the summit *Stigmas* globose. *Capsule* 2—3 valved, 2—3 celled. *Seeds* dark brown, clothed with long silky brown hairs The whole plant lactescent.

Grows in the sandy soils of the Islands of Georgia and Carolina.
Flowers June—October.

This has been generally considered by modern botanists as the C. Jalapa of Linnæus; but while the external characters of the two plants appear in many respects to agree, the medical qualities of this by no means resemble those of the officinal Jalap. We must therefore conclude either that modern botanists have mistaken the plant of Linnæus, or that climate has totally changed or destroyed its active properties; or, what is equally probable, that the plant producing the officinal Jalap has been concealed by the jealous vigilance of the Indigenes from the curiosity of Europeans.

To Dr. Baldwin I am indebted for the following observations on this plant.

"My information respecting the medical qualities of the I. macrorhiza, which has been derived from actual experiment. Six drams of the pulverized root has been given under my notice, without producing any cathartic effect. I have also subjected the dried root to the test of chemical analysis, and found it to contain no resin (in which the active powers of the officinal Jalap resides), or so small a quantity as not to prevent its being used as an article of diet. It contains a great deal of saccharine, along with a considerable quantity of farinaceous matter. It is probably not more cathartic than the C Batatas, nor contains more resin. Negroes I have been informed sometimes eat it."

8. Panduratus.

C. foliis cordatis, integris lobatisve, panduræformibus; calycibus lævibus. Sp. pl. 1. p. 850.	Leaves cordate, entire or lobed, and panduræform; calyx smooth.

Walt. p. 93.
Mich. 1. p. 135. Pursh, 1. p. 144.

Root perennial, large, penetrating several feet into the earth. *Stem* terete, the young branches pubescent, the old nearly smooth. *Leaves* sometimes 3 lobed, entire, mucronate, pubescent, underneath slightly glaucous; petioles 2 inches long. *Peduncles* and *calyx* lactescent; peduncles 1—2 inches long, 1—5 flowered, furnished with 2 small stipules. *Corolla* large, the border slightly lobed, white, with a purple tube. *Filaments* very villous at base. *Stigma* just cloven in two, globose, white.

Grows in dry, shaded soils.
Flowers May—August.

The root is bitterish and somewhat astringent to the taste, it contains some resin, and certainly possesses some cathartic power, but probably in too slight a degree to bring it into use as a substitute for Jalap as has been proposed.

In the form of infusion or decoction it is said to be very serviceable in gravel. Barton's Collections, Part II, p. 49.

Wild potato-vine.

9. Sagittifolius. Mich.

C. foliis sagittatis, auriculis longis, acutis; caule volubili; pedunculis unifloris. E.	Leaves sagittate, with the auricles long, acute; stem twining; peduncles 1 flowered.

Mich. 1. p. 138. Pursh, 1. p. 144.
C. speciosus, Walt. p. 93.

Root perennial. *Stem* glabrous, terete, twining around humble shrubs, sometimes prostrate. *Leaves* glabrous, entire; auricles long, diverging, acute; petioles 1—2 inches long. *Flowers* axillary, solitary; peduncles about an inch long, furnished with 2 small bracteas. *Corolla* large, purple. *Filaments* unequal, very villous at base, not half as long as the corolla. *Anthers* white. *Style* longer than the stamens, 2 cleft. *Stigmas* 2, globose, white. *Capsule* 2—3 valved, 2 celled.

Very near to C. Wheleri; Linnæus under that species, and Michaux under his Sagittifolius both refer to the same figure in Plukenet, Alm. t. 85. f. 3. Catesby, vol. 1. pl. 35. represents this species.

Grows along the margins of salt water, among rushes and saline plants.

Flowers through the whole summer.

10. **Catesbeianus.** Pursh.

C. volubilis, tomentosus; foliis oblongis, sagittatis, acuminatis; pedunculis unifloris, foliis brevioribus; bracteis ovalibus, obtusis, calyce longioribus.

Twining, tomentose; leaves oblong, sagittate, acuminate; peduncles 1 flowered, shorter than the leaves; bracteas oval, obtuse, longer than the calyx.

Calystegia Catesbeiana, Pursh, 2. 729.

Flowers large, purple.

Described by Pursh from specimens in the Herbarium of Sherard; collected by Catesby in Carolina.

11. **Paradoxus.** Pursh.

C. humifusus, tomentosus; foliis oblongis, cordato-sagittatis, acutis; pedunculis unifloris, folio longiorious; bracteis a flore remotis, linearibus; calycibus nudis, glabris, acuminatis.

Prostrate, tomentose; leaves oblong, cordate sagittate, acute; peduncles 1 flowered, longer than the leaves; bracteas linear, remote from the flowers; calyx naked, glabrous, acuminate.

Calystegia paradoxa, Pursh, 2, p. 729.

Flowers large, white.

I have inserted this species, which has been described by Pursh from specimens in Sherard's Herbarium, although it is uncertain whether they are collected in Virginia or Carolina.

12. **Repens.**

C. foliis sagittatis, postice obtusis; caule volubili; pedunculis unifloris. E.

Leaves sagittate, the auricles obtuse; stem twining; peduncles 1 flowered.

Sp. pl. 1. p. 874. Walt. p. 93. Mich. 1. p. 137.
Calystegia sepium, Pursh, 1. p. 142.

Stem perennial? *Stem* twining around shrubs and rushes, sometimes slightly angled, pubescent. *Leaves* very entire, pubescent; the auricles sometimes truncate; petioles 3—4 inches long. *Flowers* axilla-

ry, solitary; peduncles about 3 inches long, thickened upwards, pubescent. *Bracteas* 2 at the base of the calyx, cordate ovate, acuminate, longer than the calyx. *Corolla* white, tinged with rose colour, the tube long, the border obscurely 4 lobed, with the lobes emarginate. *Filaments* equal, shorter than the corolla, hairy at base. *Germ* glabrous. *Style* longer than the stamens, slightly 2 cleft. *Stigmas* 2, globose, white. *Capsule* 3 valved, 3 celled.

Pursh mentions on the authority of R. Brown, that the C. sepium and repens of Linnæus are the same.

Grows in swamps and marshes near the mouths of fresh water rivers.

Flowers April—May.

*** *Floribus aggregatis.*	*** *Flowers clustered.*

13. TAMNIFOLIUS.

C. foliis cordatis, acuminatis, pilosis; floribus aggregatis.	Leaves cordate, acuminate, hairy; flowers clustered.

Ipomœa Tamnifolia, Sp. pl. 1. p.

Root annual. *Stem* twining, around small shrubs, terete, muricate, hairy. *Leaves* slightly undulate, entire, glabrous on the upper surface, with the margins hairy; the veins underneath muricate; petioles 2—4 inches long. *Flowers* in capitate, dichotomous clusters, 16—18 flowered; common peduncles 2—4 inches long, muricate, hairy. *Bracteas* 10—12 leaves at the base of each head, of which the two exterior are large. Leaves of the *calyx* acute, very villous. *Corolla* campanulate, small, scarcely longer than the calyx, 5 toothed, blue. *Filaments* unequal, half as long as the corolla. *Style* as long as the stamens, slightly 2 cleft. *Stigmas* 2, globose. *Capsule* almost 4 angled, 2 celled, clothed with the calyx. *Seeds* 2 in each cell.

Grows in cultivated high lands. Paris Island. Augusta, Georgia, Mr. Squibb.

Flowers August—October.

I have found it impossible to mark by any certain characters the limits which separate the genus Convolvulus from the Ipomœa. The transition from the globose, undivided stigma, to the deeply cloven style, is so gradual in different species, as to render it difficult to determine the termination of one genus, and the commencement of the other. If we confine the Convolvulus to those plants which have oblong, thickened stigmas, all of our species must be transferred to Ipomœa.

I have for the present transferred to the Ipomœa all the species with stigmas undivided, although sometimes furrowed, and retained in Convolvulus those with two distinct stigmas. This arrangement, which is by no means satisfactory, has caused the removal of I. Tamnifolia and macrorhiza to Convolvulus; and of C. Carolinus to Ipomœa.

IPOMŒA. Gen. pl. 288.

Corolla infundibuliformis. *Stigma* capitato-globosum. *Capsula* 3 locularis.	*Corolla* funnel shaped. *Stigma* capitate globose. *Capsule* 3 celled.

1. Orbicularis. E.

I. foliis orbiculatis, emarginatis, venosis, glabris; pedunculis subtrifloris; corolla purpurea, tubo brevi; caule prostrato. E.	Leaves circular, emarginate, strongly veined, glabrous: peduncles generally 3 flowered; corolla purple, with a short tube; stem prostrate.

Stem prostrate, slightly roughened. *Leaves* 2—3 inches long, circular, sometimes nearly reniform, coriaceous, (perhaps succulent); petioles 2—3 inches long. *Peduncles* as long as the petioles; partial peduncles 1—2 inches long, all furnished with bracteas. Leaves of the *calyx* ovate, slightly mucronate. *Corolla* large; tube short.

This plant has been considered by many as the I. bona nox of Linnæus; it may perhaps vary, but many specimens which I have received from different persons agree with each other so much in general character and appearance, and differ so widely from the figures to which we are referred for the I. bona nox in the Species Plantarum, that it appeared to me most adviseable to form of it a distinct species.

Grows on the sands hills along the sea shore on Cumberland Island, Georgia.

Flowers through the summer.

2. Bona Nox.

I. glaberrima; foliis cordatis, integris seu angulatis; pedunculis 1—3 floris; calycibus aristatis; corollis indivisis, tubo longissimo. Pursh, 1, p. 145.	Very glabrous; leaves cordate, entire or angled; peduncles 1—3 flowered; calyx awned; corolla undivided, with the tube very long.

Sp. pl. 1. p. 882. Sloan's Jamaica, 1. t. 96. f. 1. Bot. Mag. 752.

Stem prostrate, roughened, sometimes prickly. *Leaves* cordate, more or less angled, with a long acumination. *Corolla* large, white.

Grows along the margins of rivers in Carolina and Florida. Pursh. I doubt much whether this plant has been found to the north of Florida. The preceding has probably been mistaken for it.

Flowers July—August.

3. COCCINEA.

I. foliis cordatis, acuminatis, basi angulatis; pedunculis multifloris. Sp. pl 1. p. 880.

Leaves cordate, acuminate, angled at base; peduncles many flowered.

Walt. p. 97. Mich. 1. p. 140. Pursh, 1. p. 145.

Root annual. *Stem* twining, climbing over small shrubs. *Leaves* alternate, on petioles 1—2 inches long. *Peduncles* as long as the petioles, 3—5 flowered. *Calyx* awned. *Coralla* hypocrateriform, scarlet, the plaits of a paler colour, the margins nearly entire.

Rare along the sea cost, very common in the middle country (Dr. Macbride), preferring damp, rich soils; in the corn fields in St. Johns very common.

Flowers through the summer.

4. TRICHOCARPA.

I. foliis cordatis, integris trilobisque, villosis; calycibus ciliatis; capsulis hirsutis; pedunculis sub-bifloris.

Leaves entire, cordate and 3 lobed, villous; calyx ciliate; capsules hairy; peduncles generally 2 flowered.

Mich. 1. p. 139.
Walt. p. 93.
I. Carolina, Pursh, 1. p. 145.
Convolvulus Carolinus, Sp. pl. 2. p. 851.
Dill. Hort. Eltham. t. 84. f. 98.

Root annual. *Stem* twining, climbing over small shrubs, slightly angled, somewhat rough, hairy, *Leaves* when young generally cordate, the old deeply 3 lobed, with the lobes acuminate and angled near the base, the margins frequently coloured (purple); petioles 1—2 inches long. *Peduncles* as long as the petioles, 1—3 flowered. *Bracteas* 2 at each division of the peduncle, linear lanceolate, acuminate, hairy, 3—5 lines long. Leaves of the *calyx* oblong, acuminate, ciliate, slightly hairy, not longer than the mature capsule. *Corolla* purple, sometimes pink, pubescent on the inside near the base. *Filaments* alittle shorter than the corolla, pubescent at base, white. *Anthers* purple. *Germ* villous. *Style* as long as the stamens. *Stigma* globose, undivided. *Capsule* hairy, 4 celled, 4 valved; the transverse dissepiments extending to the circumference of the capsule. *Seed* one in each cell.

Grows in dry cultivated lands, very common.

Flowers July—October.

5. NIL.

I. hirsuta; foliis cordatis, trilobis; pedunculis brevibus, 1—3 floris; calycibus villosissimis, muricatis, longissme acuminatis.

Hirsute; leaves cordate, 3 lobed; peduncles short, 1—3 flowered; calyx very villous, muricate, pointed.

Pursh, 1. p. 146.
Convolvulus nil, Sp. pl. 1. p. 851. Mich. 1. p. 139,

Root annual. *Stem* twining, hairy, climbing over small shrubs. *Leaves* cordate, acuminate, the old 3 lobed. *Peduncles* shorter than the petiole, 1—3 flowered. Segments of the *calyx* subulate, long. *Corolla* funnel shaped, white at base, blue towards the margin; the border obscurely 5 angled. *Stigma* undivided, globose. *Capsule* glabrous.

Thisplant has been considered by some of our best botanists as the Ipomœa lacunosa, but it agrees exactly with the figure in Dill. Hort. Elth. t. 80. f. 92. referred to as the C. nil, by Lin. while it has no resemblance to f. 102, t. 87. which is quoted under Ipomœa lacunosa.

Grows in dry cultivated ground. Very common.
Flowers August—October.

6. LACUNOSA.

I. glabra; foliis cordatis, acuminatis, basi angulatis; pedunculis brevibus, subunifloris; calycibs pilosis; corollis tubulosis, brevibus; capsulis pilosis. Pursh, 1. p. 145.

Glabrous; leaves cordate, acuminate, angled at base; peduncles short, generally 1 flowered; calyx hairy; corolla tubular, short; capsule hairy.

Sp. pl. 1. p. 881. Mich. 1. p. 140.

Flowers white, with a purple rim.

Grows in Carolina. Mich. I have never seen in this country any plant resembling the fiigure Dill. Hort. Elth. t. 87. f. 102. referred to by Linnæus as his I. lacunosa.

7. DISSECTA.

I. caule petiolis pedunculisque pilosissimis; foliis glabris, 7 partito-loba-

Stem with petioles and peduncles very hairy; leaves glabrous, 7 lobed,

tis, laciniis sinuatis; pedunculis unifloris; laciniis calycis ovalibus; corollis campanulatis. Pursh, 1, p. 145.	the segments sinuate; peduncles 1 flowered; segments of the calyx oval; corolla campanulate.

Convolvulus dissectus, Sp. pl. 1. p. 864. Mich 1. p. 139.

Grows in calcareous soils, Georgia and Florida. Pursh.
Flowers July.

8. Carolina.

I. foliis digitatis; foliolis petiolatis; pedunculis unifloris. Sp. pl. 1. p. 880.	Leaves digitate; leaflets on petioles; peduncles 1 flowered.

Cates. Car. vol. 2. p. 19. t. 19.

From the name of this plant Linnæus appears to have considered it as a native of Carolina; it is also inserted in Muhlenberg's Catalogue, but I doubt whether it has ever been found in South-Carolina or Georgia. Catesby says expressly that it inhabits the Bahama islands.

Stem twining. *Leaflets* linear-lanceolate, 5 to 7 composing each leaf. *Corolla* funnel shaped, blue.

CANTUA. Juss. Gen. pl. 152.

Calyx 3—5 fidus. *Corolla* infundibuliformis. *Stigma* trifidum. *Capsula* supera, 3-locularis, 3-valvis, polysperma. *Semina* alata.	*Calyx* 3—5 cleft. *Corolla* funnel shaped. *Stigma* 3 cleft. *Capsule* superior, 3 celled, 3 valved many seeded. *Seeds* winged.

1. Coronopifolia. Willd.

C. foliis pinnatifidis; floribus terminalibus, pedunculatis, laxe racemosis; corolla calyce triplo longiore.	Leaves pinnatifid; flowers terminal, on peduncles, in loose racemes; corolla thrice as long as the calyx.

Sp. pl. 1. p. 879. Pursh, 1. p. 147.
Ipomopsis elegans, Mich 1. p. 142. Hort. Kew. 1. p.

Root fibrous, biennial ? *Stem* 2—3 feet high, pubescent. *Leaves* sessile, somewhat fasciculate, pinnatifid ; segments linear, smooth, dotted. *Flowers* in a racemose panicle ; the branches short, leafy. *Calyx* tubular, pubescent ; segments subulate, as long as the tube. *Corolla* bright red, within yellow, beautifully dotted with red. *Filaments* unequal, inserted near the summit of the tube, nearly as long as the corolla. *Style* as long as the stamens. *Stigma* spotted. *Capsule* oblong, obtuse, 3 furrowed. *Seed* angular, *scarcely winged.*

Few plants are seen in our gardens of equal beauty.

Grows in the upper districts of Carolina and Georgia. Sent me from Columbia, by Mr. Herbemont. Found near St. Marys, by Dr. Baldwin.

Flowers July.

POLEMONIUM. GEN. PL.

Corolla 5-partita; fundo clauso valvis staminiferis. *Stigma* 3-fidum. *Capsula* 3-locularis, supera.	*Corolla* 5 parted; the bottom closed with valves bearing the stamens. *Stigma* 3 cleft. *Capsule* 3 celled, superior.

1. REPTANS.

P. foliis pinnatis, septenis; floribus terminalibus, nutantibus. Sp. pl. 1. p. 886.	Leaves pinnate, generally by sevens; flowers terminal, nodding.

Pursh, 1. p. 151. Mich. 1. p. 142.

Root perennial, creeping. *Stem* erect, 1—2 feet high, much branched, glabrous. *Leaves* pinnate (my specimens have more frequently 9 and 11 than 7 on a common petiole.) *Leaflets* lanceolate, acute, entire, glabrous. *Calyx* 5 cleft. *Filaments* much shorter than the corolla, dilated at base, inserted into the tube of the corolla. *Style* longer than the stamens.

Grows in the vallies of the mountains.

Flowers.

CAMPANULA. GEN. PL.

Corolla campanulata; fundo clauso valvis staminiferis. *Stigma* 3-fidum. *Capsula* infera, poris lateralibus dehiscens.	*Corolla* campanulate; the bottom closed with valves bearing the stamens. *Stigma* 3 cleft. *Capsule* inferior, opening through lateral pores.

1. AMPLEXICAULIS. Mich.

C. caule simplici; foliis cordatis, dentatis, amplexicaulibus; floribus sessilibus, aggregatis.	Stem simple; leaves cordate, toothed, amplexicaule; flowers sessile, clustered.

Mich. 1. p. 108.
C. perfoliata, Sp. pl. 1. 915.
— ———— Walt. p. 100. Pursh, 1. p. 160.

Root annual, somewhat fusiform. *Stem* 6—12 inches high, generally simple, erect, 5 angled, the angles retrorsely aculeate. *Leaves* sessile, pubescent, *never perfoliate*, closely embracing the stem. *Flowers* 1—5 in the bosom of each leaf. *Calyx* 1 leaved, persistent, 5 parted, sometimes 3—4; segments lanceolate, acute, mucronate, sparingly ciliate. *Corolla* 1 petalled, inserted into the summit of the germ, purple; the border 5 cleft, segments acute. *Filaments* about half the length of the corolla, dilated at base and closing the base of the corolla. *Anthers* erect, 2 lobed, pale purple. *Germ* inferior, oblong, angled. *Style* filiform, longer than the stamens, pubescent towards the summit. *Capsule* oblong, angled, 8 celled, crowned with the calyx, opening by 3 lateral valves? *Seeds* ovate, slightly compressed, attached to a central receptacle.

As the leaves of this plant are never perfoliate, it appears to be improper to retain the name given it by Linnæus.

Grows in dry cultivated ground. Very common.

Flowers April.

2. ACUMINATA. Mich.

C. foliis lanceolatis, acuminatis, serratis, glabris; spica fasciculata; corollis campanulato-rotatis. E.	Leaves lanceolate, acuminate, serrate, glabrous; spike clustered; corolla campanulate rotate.

Sp. pl. 1. p. 899. Mich. 2. p. 108. Pursh, 1. p. 159.

Root perennial. *Stem* erect, 2—3 feet high, terete, glabrous. *Leaves* remotely serrate, attenuate at base, thin, very smooth. *Flowers* generally by threes in the axil of each leaf; peduncles very short. *Corolla* blue. *Stamens* shorter than the corolla. *Style* much longer.

Grows in the mountains of Carolina and Georgia.

Flowers July—August.

3 DIVARICATA. Mich.

C. foliis lanceolatis, acutis, grosse serratis, gla-	Leaves lanceolate, acute, with large serratures, gla-

bris ; paniculis patentibus ; floribus nutantibus. E.	brous ; panicle expanding ; flowers nodding.

Mich. 1. p. 109. Pursh, 1. p. 159.

Stem erect, 2 feet high, glabrous. *Leaves* sessile, the summit long, tapering and very acute ; a cluster of small leaves in each axil. *Panicle* terminal ; branches expanding, sometimes divaricate. *Flowers* solitary, small, with small linear and subulate leaves at each division of the panicle.

Collected in the mountains of Carolina by Dr. Macbride.

Flowers September.

4. ERINOIDES.

C. caulibus diffusis ; foliis lanceolatis, decurrentibus, lineascabra ; floribus pedunculatis, solitariis. Sp. pl. 1. p. 117.	Stem diffused ; leaves lanceolate, somewhat serrate, decurrent, with a scabrous line; flowers on peduncles, solitary.

Bigelow, p. 54.
C. Aparinoides, Pursh, 8. p. 109.
C. flexousa ? Mich. 1. p. 109. Pursh, 1. p. 159.

Root perennial ? *Stem* 12—13 inches high, decumbent, flexuous. angled by the decurrent leaves, angles retrorsely aculeate. *Leaves* small, lanceolate, serrate, with the margins and midrib also retrorsely aculeate. *Panicle* distinct. *Flowers* small, solitary, terminal, nodding.

This species agrees so exactly with the description of the C. Erinoides of Linæus, that I strongly suspect he was misinformed as to the native soil of the plant, when he recorded it as an African species. If his C. Erinoides came really from Africa I have no doubt but this plant is a distinct species.

Grows in the mountains of South-Carolina and Georgia.

Flowers August.

SAMOLUS. GEN. PL.

Corolla hypocrateriformis. *Stamina* munita squamis corollæ. *Capsula* 1-locularis, infera.	*Corolla* hypocrateriform. *Stamens* guarded by the scales of the corolla. *Capsule* 1 celled, inferior.

1. VALERANDI. Sp. pl. 1. p. 927.

Root perennial. *Stem* herbaceous, 8—12 inches high, generally simple. *Leaves* obovate, obtuse, entire, tapering at base to a footstalk nearly an inch long. *Flowers* in a terminal, loose raceme. *Peduncles* about an inch long. *Flowers* small, white.

Grows in bogs and wet places.

Flowers through the summer.

LOBELIA. Gen. pl.

Calyx 5-fidus. *Corolla* 1-petala, irregularis. *Antheræ* cohærentes. *Capsula* infera, 2—3 locularis.	*Calyx* 5 cleft. *Corolla* 1 petalled, irregular. *Anthers* cohering, and forming a tube. *Capsule* inferior, 2—3 celled.

1. Kalmii.

L. caule erecto, gracili; foliis radicalibus spathulato-ovatis, caulinis linearibus, subintegris; racemo terminali, sparsifloro. E.	Stem erect, slender; root leaves spathulate, ovate, stem leaves linear, nearly entire; raceme terminal, with the flowers scattered.

Sp. pl. 1. p. 939. Walt. p. 218. Mich. 2. p. 153. Pursh, 2. p. 446.

Root perennial. *Stem* 1—2 feet high, very slender. Stem *leaves* small, linear, nearly subulate; radical leaves spathulate, ovate, sometimes nearly orbiculate, pubescent. *Flowers* small, attenuate, remote, on peduncles 3—4 lines long. *Calyx* small, tube cup-shaped; border 4 cleft; segments subulate, longer than the tube. *Corolla* 1 petalled, irregular, pale blue, tube split on the upper side to the base; border 3 cleft, the two lateral segments subulate, reflexed, the middle segment larger, 3 cleft, with the middle division again the largest; all ovate, acute. *Filaments* linear, pubescent, with the corolla generally inserted into the calyx, continuing to the base of the germ. *Anthers* cohering into a tube, incurved, pale blue, at the summit very villous, opening along the inner surface. *Germ* superior, ovate. *Style* filiform, as long as the stamens. *Stigma* compressed, villous. *Capsule* 2 valved, 2 celled, surrounded by the persistent calyx. *Seed* numerous, ovate, attached to a central receptacle.

Grows in damp, poor soils.

Flowers May—August.

2. PALLIDA. Muhl. Cat.

L. caule gracili; foliis longe-cuneato lanceolatis, glabris, subundulatis, inferioribus obtusis; racemo paucifloro. E.	Stem slender; leaves long, wedge shaped at base, lanceolate, glabrous, slightly waved, the lower obtuse; raceme few flowered.

Stem 12—18 inches high, slender, glabrous, slightly angled. *Leaves* small, remote, lanceolate, denticulate, very smooth, the tapering base of the lower leaves nearly 2 inches long. *Flowers* remote, on slender peduncles. *Calyx* very small. *Corolla* small, pale blue. *Anthers* projecting beyond the tube of the corolla, pale blue.

This species, though not noticed except by Dr. Muhlenberg, appears to be widely diffused. I have specimens from Pennsylvania; from Tennessee, collected by Mr. Jackson; from the low country of Carolina; and from St. Mary's, Georgia, collected by Dr. Baldwin. This last however differs in having its stems nearly naked, and its corolla white.

Grows in damp soils.

Flowers through the summer.

3. CLAYTONIANA. Mich.

L. caule erecto, pubescente; foliis oblongis, obtusis, serrulatis; racemo virgato, confertifloro. E.	Stem erect, pubescent; leaves oblong, obtuse, serrulate; raceme virgate; flowers crowded.

Mich. 2. p. 153. Pursh, 2. p. 447.

Stem 12—18 inches high. *Leaves* sessile, finely serrulate, (the root leaves entire. Pursh.) *Spike* crowded. *Flowers* small, on short peduncles, pale blue. *Stamens* rather longer than the tube of the corolla. Tube of the *calyx* very small.

Grows near Columbia. Mr. Herbemont.

Flowers July—September.

4. GLANDULOSA.

L. caule erecto; foliis lineari-lanceolatis, crassiusculis, denticulatis; laciniis calycis denticulatis; floribus racemosis. E.	Stem erect; leaves linear lanceolate, rather thick, denticulate; segments of the calyx denticulate; flowers in racemes.

Walt. p. 218. Pursh, 2. p. 447.

L. crassiuscula, Mich. 2. p. 152.

Root fibrous, perennial. *Stem* erect, about 2 feet high, glabrous, leafy near the base. *Leaves* sessile, slightly amplexicaule, sparingly ciliate at base. *Racemes* few flowered; a short leaf at the base of each peduncle, linear lanceolate, dentate; peduncles 2—3 lines long, hairy. Tube of the *calyx* hairy; segments dentate. Two stipules at the base of each peduncle, terminating with a gland. *Corolla* blue the border hairy. *Filaments* shorter than the corolla.

Grows in damp pine barrens.

Flowers September—October.

5. INFLATA.

L. caule erecto, hirsuto; foliis ovali-lanceolatis, serratis, hirsutis; racemis subpaniculatis; capsulis inflatis. E.	Stem erect, hirsute; leaves oval lanceolate, serrate, hirsute; racemes somewhat paniculate; capsules inflated.

Sp. pl. 1. p. 946. Walt. p. 218. Mich. 2. p. 152. Pursh, 2. p. 448.

Root perennial. *Stem* 1—2 feet high, branching. *Leaves* oblong, oval and lanceolate, sessile. *Flowers* in racemes, numerous; peduncles 2—3 lines long. *Calyx* inflated, nerved, reticulate, glabrous. *Corolla* small, pale blue. *Stamens* scarcely as long as the tube of the corolla.

Grows in the mountains and upper country of Carolina and Georgia.

Flowers July—September.

The leaves are acrid and stimulating to the mouth, and are, with the rest of the plant, possessed of very active properties. They may be so managed as to act as an emetic, cathartic and narcotic, but should be used with great caution. According to Dr. Thatcher they promote perspiration and expectoration, and may be employed in asthma with much advantage. In Massachusetts, where this plant as a medicine has excited much attention, it is usually given in tincture.

6. SYPHILITICA.

L. caule erecto, hirsuto; foliis ovali-lanceolatis, crenulatis; calycibus hirsutis, sinubus reflexis. Mich. 2. p. 151.	Stem erect, hirsute; leaves oval lanceolate, crenulate; calyx hirsute, with the margins reflexed.

Sp. pl. 1. p. 945. Pursh, 2. p. 447.

Root perennial. *Stem* erect, 3 feet high, angled, the lower part nearly glabrous. *Leaves* large, sessile, lanceolate, crenulate and serrulate, the lower becoming nearly glabrous. Raceme leafy; ped.

uncles 2—3 lines long. *Calyx* hispid. *Corolla* large, blue. *Anthers* projecting beyond the tube of the corolla.

Grows in the mountains of Carolina and Georgia.

Flowers July—September.

This plant has been considered as the Indian remedy for *lues venerea*, but the regular practitioners who have tried it consider it as deserving no attention in this point of view. Dr. Barton gives it the character of being a diuretic.

7. PUBERULA. Mich.

L. sericeo-pubens; caule erecto; foliis oblongo-ovalibus, obtusis, repando-serrulatis; calycis tubo villoso, sinubus reflexis.	Clothed with silky down; stem erect; leaves oblong oval, obtuse, repand serrulate; tube of the calyx villous, with the margin reflexed.

Mich. 2. p. 152.

Root perennial. *Stem* 2 feet high, slightly angled. *Leaves* sessile, the lower obovate, the upper lanceolate, finely serrulate, and possessing a silky lustre. *Peduncles* 2—4 lines long, turning all to one side, bent in the middle. Tube of the *calyx* short, villous, the segments lanceolate, ciliate, three times as long as the tube. *Corolla* bright blue. *Stamens* and *style* as in the preceding species.

This species is very nearly allied to the preceding. It is however in all its parts, but particularly in its corolla smaller; its calyx is less hispid, its lower leaves obtuse, and its stamens nearly enclosed, while in the L. syphilitica they are longer than the tube of the corolla.

Varies; *a. glabella*; with a stem 12—18 inches high, very smooth; leaves linear lanceolate, obscurely denticulate; margins of the calyx slightly reflexed. Seems to be an intermediate plant between this species and L. glandulosa.

Grows in damp soils. Very common. *Var. glabella* in Chatham county, Georgia.

Flowers September—October.

8. AMŒNA. Mich.

L. caule erecto, pubescente; foliis lato-lanceolatis, duplicato-dentatis; spica secunda; calycis sinubus erectis. E.	Stem erect, pubescent; leaves broad lanceolate, doubly toothed; spike secund; margin of the calyx erect.

Mich. 2. p. 153.

L. syphilitica, Walt. p. 218. Pursh, 2. p. 447?

Root perennial. *Stem* erect, simple, 2—4 feet high, slightly angled near the summit, pubescent, marked by the decurrent leaves. *Leaves* sessile, sometimes incised, pubescent, silky and dark green on the upper surface, paler below. Racemes leafy; peduncles 3 lines long, all turning to one side. Tube of the *calyx* 10 nerved, and the margin firm as if bordered by a nerve; segments subulate, 3 or 4 times as long as the tube. *Corolla* bright blue. *Filaments* white, as long as the tube of the corolla. *Anthers* blue. *Style* as long as the stamens. *Stigma* compressed, gaping ? hairy at base.

Grows in damp soils, ditches, &c. Common.

Flowers September—October.

9. CARDINALIS.

L. caule erecto; foliis lato-lanceolatis, serratis; spica terminali, secunda; staminibus corolla longioribus.	Stem erect; leaves broad lanceolate, serrate; spike terminal, secund; stamens longer than the corolla.

Sp. pl. 1. p. 944. Mich. 1. p. 151. Walt. p. 218. Pursh, 2. p. 448.

Root perennial. *Stem* 2—3 feet high, terete, simple, pubescent towards the summit. *Leaves* glabrous, tapering at base, and sprinkled with hairs. Peduncles 6—8 lines long, with a leaf at the base of each. Tube of the *calyx* glabrous, slightly angled by elevated nerves; segments subulate, twice as long as the tube. *Corolla* bright scarlet. *Filaments* scarlet. *Anthers* sky blue. *Style* shorter than the stamens. *Stigma* compressed, hairy at base.

This is one of the most splendid plants of our country, and when flowering freely and luxuriantly, possesses singular beauty. As it is a native of the wettest soil, it requires, when in a garden, to be freely watered during the whole period of its growth, unless shaded by trees.

Inhabits swamps and rich damp soils.

Flowers August—September. *Cardinal flower.*

This plant is used, according to Dr. Barton, by the Indians for destroying worms in children.

PINCKNEYA. MICH.

Capsula 2-locularis, valvis medio septiferis. *Corolla* tubulosa. *Calyx* laciniis 1—2 bracteæformibus. *Filamenta* basi	*Capsule* 2 celled, bearing the partition in the middle of the valves. *Corolla* tubular. *Calyx* with 1 or 2 segments resem-

tubi inserta. *Semina* alata.

bling bracteas. *Filaments* inserted at the base of the tube. *Seed* winged.

1. **Pubens.**

Mich. 1. p. 105. t. 13. Hort. Kew. 1. p. 372. Pursh, 1. p. 158

A large shrub, 15—20 feet high, with many stems from each root; branches brachiate; the younger tomentose. *Leaves* opposite, large, lanceolate, entire, slightly acuminate, shining on the upper surface though sprinkled with hairs, tomentose on the lower; petiole about an inch long, tomentose. *Panicles* terminal and axillary, composed of fascicles commonly 5 flowered. *Calyx* superior, 5 parted, persistent, slightly coloured; segments sometimes equal, lanceolate, and acuminate; frequently one and sometimes two segments dilate into a large, ovate, veiny, rose coloured leaf; when 2 segments dilate they are never equal in size. *Corolla* tubular; the tube of an obscure green colour, tomentose; border 5 parted; segments oval, obtuse, purple. *Filaments* inserted into the base of the corolla, longer than the tube. *Anthers* incumbent, 2 celled. *Germ* turbinate. *Style* shorter than the stamens. *Stigma* obtuse. *Capsule* nearly globose, opening at the summit across the dissepiment. *Seeds* flat, orbicular, attached to a central receptacle.

This genus is very nearly allied to Cinchona. It differs in its calyx, but principally by the transverse partition of its capsule.

Grows in wet and boggy soils. Is found from New River, South-Carolina, along the sea coast to Florida; its southern or western limit is unknown.

Flowers May—June.

This genus was named by Michaux in honour of Gen. Charles Cotesworth Pinckney.

TRIOSTEUM. Gen. pl. 300.

Corolla monopetala, subæqualis *Calyx* longitudine corollæ. *Bacca* 3-locularis, 3-sperma, infera.

Corolla one petalled, nearly equal. *Calyx* as long as the corolla. *Berry* 3 celled, 3 seeded, inferior.

1. **Perfoliatum.**

T. foliis connatis, spathulato-lanceolatis, acuminatis; floribus sessilibus, verticillatis. Sp. pl. 1. p. 990.

Leaves connate, spathulate lanceolate, acuminate; flowers sessile, verticillate.

T. majus, Mich. 1. p. 107.

Root perennial. *Stem* 2—3 feet high, pubescent. *Leaves* large, spathulate lanceolate, acuminate, above scabrous, underneath tomentose, connate at base. *Flowers* sessile, verticillate. *Calyx* persistent, 5 parted; segments linear. *Corolla* purple. Fruit a dry, hard, dark purple *berry*, crowned with the persistent calyx.
Grows in the upper districts of Carolina. Dr. Macbride.
Flowers June—August.
Generally though incorrectly called *Gentian.*

The root of this plant is both emetic and cathartic. It is given generally in the form of an infusion or decoction. It is bitter, and given in small doses acts as a tonic.

Dr. Barton found it a good cathartic; he gave the bark of the root in doses of twenty and thirty grains; on some occasions it seemed to operate as a diuretic. Vide Collections, Part I. p. 28.

2. ANGUSTIFOLIUM.

T. foliis connatis, angusto-lanceolatis, acuminatis; pedunculis oppositis, unifloris. Sp. pl. 1. p. 991.	Leaves connate, narrow lanceolate, acuminate; peduncles opposite, 1 flowered.

T. minus, Mich. 1. p. 107.

Stem 2—3 feet high, hairy. *Leaves* spathulate, lanceolate, acuminate, but much narrower than in the preceding species, slightly scabrous, scarcely connate. *Flowers* solitary, on short peduncles. *Corolla* yellow.
Grows in the mountains of Carolina. Dr. Muhlenberg.
Flowers June—July.

CAPRIFOLIUM.

Bacca 3-locularis, polysperma, distincta. *Corolla* tubulosa, longa, 5-fida. *Calyx* 5-dentata.	*Berry* 3 celled, many seeded, distinct. *Corolla* tubular, long, 5 cleft. *Calyx* 5 toothed.

1. SEMPERVIRENS.

C. spicis verticillatis, subnudis, terminalibus; foliis oblongis, subtus glaucis, summis connato-perfoli-	Spikes verticillate, somewhat naked, terminal; leaves oblong, glaucous underneath, the upper

atis; corollis subæqualibus, tubo superne ventricosis.

ones connate perfoliate; corolla nearly equal, with the tube above ventricose.

Mich. 1. p. 105. Pursh, 1. p. 160.
Lonicera sempervirens, Walt. p. 131. Sp. pl. 1. p. 983.

Stem perennial, twining over shrubs, and in very rich soils over trees also. *Leaves* perennial, opposite, very entire, oval, on the upper surface very smooth, on the under glaucous and a little hairy; the lower ones petiolate, the upper connate, obtuse. *Flowers* in verticillate spikes, the terminal verticils remote, 6 flowered; 1 or 2 glands between each germ. *Calyx* superior, very small, 5 toothed, persistent. *Corolla* funnel shaped; border 5 cleft; segments acute, one division generally deeper than the others. *Corolla* crimson without, brighter red within. *Filaments* inserted into the tube of the corolla near the summit. *Anthers* oblong, 2 lobed, incumbent. *Germ* inferior, oval. *Style* as long as the stamens. *Stigma* capitate. *Berry* scarlet. *Seed* 4 in each cell, attached to a fibrous, central receptacle (chorda pistillaris of M. Correa de Serra).

This beautiful plant, one of the great ornaments of our woods and gardens, grows in all rich soils except those which are frequently inundated; in the dry spots of the river swamps, however, it flourishes with most luxuriance.

Flowers April—October. *English honey-suckle. Wood-bine.*

2. FLAVUM. Sims.

C. spicis verticillatis, terminalibus; corollis ringentibus; foliis ovatis, subtus glaucis, cartilagineo-marginatis, summis connato-perfoliatis.

Spikes verticillate, terminal; corolla ringent; leaves ovate, glaucous underneath, the margin cartilaginous, the upper ones connate perfoliate.

C. Fraseri, Pursh, 1. p. 160.
Lonicera flava, Bot. Mag. No. 1313.

Root perennial. *Stem* twining over shrubs. *Leaves* oval, deciduous, slightly cordate, obtuse, sometimes emarginate, glabrous, glaucous underneath, veins whitish, contracted but connate at base; the upper leaves (bracteas) larger and less contracted at base. *Flowers* in 1—3 terminal heads. *Corolla* at first bright yellow, afterwards orange, deeply bilabiate, the upper lip broader, 4 cleft, reflexed; the lower entire, oblong, reflexed; the tube hairy within, very slightly enlarged at base.

This very ornamental plant was first noticed in Drayton's View of South-Carolina, published in 1802, p. 64, as growing on Paris's Mountain, Greenville; afterwards it was collected by Fraser on the same mountain, and carried to England.

Flowers March—April.

3. GRATUM.

C. spicæ verticillis approximatis; corollis ringentibus, tubo elongato; foliis obovatis, submucronatis, subtus reticulato-venosis, pallidioribus, summis connato-perfoliatis. Pursh, 1. p.

Verticils of the spike approximate; corolla ringent, with tube long; leaves obovate, slightly mucronate, reticulate and paler underneath, the upper ones connate perfoliate.

Lonicera grata, Sp. pl. 1. p. 984.

A vine, rambling among rocks in shady, moist situations. *Leaves* perennial. *Flowers* inclining to scarlet. Pursh.

Grows in the mountains of Carolina.

Flowers June—September.

4. PARVIFLORUM. La Marck.

C. verticillis subcapitatis, bracteolatis; corollis ringentibus, basi gibbis; foliis deciduis, subtus glaucis, omnibus connatis.

Verticils nearly capitate, bracteate; corolla ringent, gibbous at base; leaves deciduous, glaucous underneath, all connate.

Pursh, 1. p. 161.
C. bracteosum, Mich. 1. p. 105.
Lonicera dioica, Sp. pl. 1. p. 983.

Flowers yellow, smaller than in any of the preceding species, *Bracteas* perfoliate, much larger than the flowers. *Filaments* bearded. Pursh.

Grows in the mountains of Carolina.

Flowers June—July.

SYMPHOREA. Juss.

Calyx dentatus. *Corolla* 5-fida, subæqualis. *Bacca* coronata, 4-locularis, 4-sperma, loculis interdum 2 abortivis.

Calyx toothed. *Corolla* 5 cleft, nearly equal. *Berry* crowned, 4 celled, 4 seeded, 2 cells sometimes abortive.

1. GLOMERATA. Persoon.

S. floribus axillaribus, subcapitato-glomeratis.	Flowers axillary, clustered in heads.

Pers. 1. p. 214. Pursh, 1. p. 162.
Symphoricarpus vulgaris, Mich. 1. p. 106.
Lonicera symphoricarpos, Sp. pl. 1. p. 989.

Leaves broad lanceolate, entire, nearly sessile. *Flowers* small, very numerous. *Berries* purple.

Grows in dry soils, among the mountains.

Flowers July—September.

DIERVILLA. JUSS. GEN. PL. 235.

Calyx oblongus, 5-fidus. *Corolla* infundibuliformis, 5-fida. *Capsula* oblonga, 4-locularis, polysperma.	*Calyx* oblong, 5 cleft. *Corolla* funnel shaped, 5 cleft. *Capsule* oblong, 4 celled, many seeded.

1. CANADENSIS. Muhl. Cat.

D. pedunculis axillaribus, terminalibus, dichotomis, trifloris; foliis ovatis, serratis, acuminatis.	Peduncles axillary and terminal, dichotomous, 3 flowered; leaves ovate, serrate, acuminate.

Bigelow, p. 56.
D. lutea, Pursh, 1. p. 162.
D. Tournefortii, Mich. 1. p. 107.
Lonicera Diervilla, Sp. pl. 1. p. 989.

A small shrub. *Leaves* on short petioles, smooth. *Flowers* of a pale yellow, small, funnel shaped, with 5 unequal segments. Bigelow.

Grows on high mountains from Canada to Carolina. Pursh.

Flowers June—July.

VERBASCUM. GEN. PL. 331.

Corolla rotata, inæqualis. *Capsula* 2-locularis, 2-valvis.	*Corolla* rotate, unequal. *Capsule* 2 celled, 2 valved.

1. Thapsus.

V. foliis decurrentibus, utrinque tomentosis; caule simplici. Sp. pl. 1. p. 1001.	Leaves decurrent, tomentose on both sides; stem simple.

Walt. p. 95. Pursh, 1. p. 142.

Root somewhat fusiform, (biennial, Lin.) appears to be perennial in this country. *Stem* herbaceous, 2---3 feet high, succulent, tomentose, winged by the decurrent leaves. *Leaves* alternate, large, lanceolate, crenate, remarkably tomentose, canescent. *Flowers* crowded in a terminal spike, each having a small subulate leaf at the base. *Calyx* 1 leaved, campanulate, tomentose, glabrous within, persistent; border 5 cleft; segments acute. *Corolla* 1 petalled, yellow, tomentose on the outside and sprinkled with glandular atoms, very short; border 5 cleft; segments unequal, obtuse, twice as large as the calyx. *Filaments* 5, inserted into the tube of the corolla, unequal, hairy. *Anthers* crescent shaped, 1 lobed, yellow. *Germ* superior, ovate, tomentose. *Style* bent, as long as the stamens, tomentose at base. *Stigma* thick, obtuse. *Seed* somewhat turbinate, dotted, attached to a large central receptacle.

Grows in dry pastures; introduced into this country in all probability at an early period of its settlement, now universally diffused.

Flowers May---August. *Mullein.*

2. Lychnitis.

V. foliis cuneiformi-oblongis, supra denudatis; caule angulato, paniculato. Smith, Fl. Brit. 1. p. 250.	Leaves oblong, wedge shaped, naked above; stem angled, panicled.

Sp. pl. 1. p. 1003.
Walt. p. 95. Pursh, 1. p. 142.

Stem straight and angular. *Leaves* very white beneath, green, with a slight hoariness, above. *Flowers* pale yellow, clustered on short peduncles. Eng. Bot. No. 58.

Grows in Carolina. Dr. Muhlenberg.

Flowers June---July.

3. Blattaria.

V. foliis amplexicaulibus, oblongis, glabris, ser-	Leaves amplexicaule, oblong, glabrous, serrate;

ratis; pedunculis unifloris, solitariis.	peduncles 1 flowered, solitary.

Smith, Fl. Brit. 1. p. 253.
Sp. pl. 1. p. 1005.
Mich. 1. p. 148. Pursh, 1. p. 142.

Root perennial. *Stem* herbaceous, 2---3 feet high, simple, slightly angled, pubescent. *Leaves* sessile, slightly cordate, acute, rugose, sprinkled with hairs.

Of this plant we have two *varieties*.

Var. a; with leaves denticulate; flowers solitary, axillary, on hairy peduncles nearly an inch long; corolla very pale yellow; filaments feathered with purple hairs.

b; with leaves doubly serrate; flowers sessile, frequently clustered, 2---3 in each axil; corolla bright yellow, purple at base; filaments beautifully feathered with purple and white hairs. Is this the V. Claytoni of Michaux?

In both varieties the corolla is hairy on the outside, glabrous within, but sprinkled with fascicles of hair, the hair all terminated with a glandular head, and the seed dotted.

Grows in close soils, sparingly in the low country, but frequent in the middle and upper districts.

Flowers May---August.

DATURA.

Corolla infundibuliformis, plicata. *Calyx* tubulosus, angulatus, deciduus. *Capsula* 4-valvis.	*Corolla* funnel shaped, plicate. *Calyx* tubular, angled, deciduous. *Capsule* 4 valved.

1. STRAMONIUM.

D. pericarpiis spinosis, erectis, ovatis; foliis ovatis, glabris. Sp. pl. 1. p. 1008.	Pericarp spiny, erect, ovate; leaves ovate, glabrous.

Root annual. *Stem* 3---5 feet high, branching, dichotomous, terete, succulent, somewhat fistulous. *Leaves* alternate at the divisions of the stem, angled, sinuate, with the angles acute, unequal at base, sprinkled with a few hairs; petioles 2---4 inches long. *Flowers* solitary in the division of the stalk; peduncles nearly an inch long. *Calyx* tubular, 5 angled, deciduous, pubescent; the border 5 cleft; segments acute, erect. *Corolla* purple, sometimes white, three times as long as the calyx, angular at base, the border 5 toothed. *Filaments* shorter than the corolla, inserted into the tube, pubescent. *Anthers* oblong, erect, hairy, dark purple. *Germ* superior, oval, furrowed, spinous, spines soft. *Style* as long as the stamens. *Stigma* lamellate, 2 cleft. *Capsule* oval, spinous, 4 celled, 4 valved, opening at the summit; 2 cells often incomplete. *Seeds* numerous, reniform, somewhat rugose, black, attached to a large, convex, central receptacle.

Grows in cultivated grounds, very common.

Flowers May---September. *James-Town* or *Jimson weed.*
Thorn-Apple.

This plant is an important article of the Materia Medica. Every part of it possesses a strong narcotic quality.

It has been given in various forms, but the seed, in the opinion of Professor Ives of New-Haven, contains all the medical properties of the plant, and is to be preferred to the extract of the leaves, a preparation extremely variable in strength. He advises to give ¼ or ½ of a grain of the pulverized seed twice a day, and to increase the doses as the system becomes accustomed to the medicine until a dilatation of the pupil of the eye takes place. This occurrence indicates that the system cannot bear it any longer with safety, and it should be laid aside until the pupil regains its proper size, which takes place very gradually, when it may be resumed. He has found some constitutions to bear doses of 10 grains. This is his mode of exhibiting the Stramonium with a view to its alterative effects.

The Stramonium may be used as an anodyne and soporific where the use of opium is improper. Its action seems principally directed upon the nervous system, and when kept up for a length of time, wears down its irritability.

In Epilepsy it has been used probably with more advantage than any other remedy.

In Mania, unaccompanied with a turgescence of the head and general arterial excitement, it has been employed by Dr. Barton and others with much success. It sometimes produces a disease of the skin.

In spasmodic Asthma Professor Ives gives a dose of the powdered seed every hour, increasing the quantity until the patient is relieved. He has, in some instances, given to the extent of 8 grains in four or five hours. This practice has been found very successful. Smoking the fibres of the root with a view to relieve this complaint has been productive, in several instances, of the worst consequences. It must be obvious that the Stramonium should never be used internally but with caution.

An extract of the leaves spread over the eye-lids produces, in an hour or two, a dilatation of the pupils, which remains after the removal of the application, in some instances, twenty-four hours.

An ointment prepared from the leaves relieves the irritation of blisters and the pain of contusions. The expressed juice of the leaves is a very serviceable application in callous ulcers. Travellers can make no better application to recent injuries of the backs of their horses than the bruised leaves of this plant.

It is improper to encourage the growth of the Stramonium near the residence of a family, as children have often endangered their lives by eating the seed.

2. **Tatula.**

D. pericarpiis spinosis, erectis, ovatis; foliis cordatis, glabris, dentatis. Sp. pl. 1. p. 1008.

Pericarp spinous, erect, ovate; leaves cordate, glabrous, toothed.

Walt. p. 94.

This plant, generally considered in this country as the D. Tatula of Linnæus, is scarcely a distinct species from the preceding. It is generally larger; the *leaves* more acutely angled, and slightly cordate; and the corolla pale violet; but all of these characters appear variable.

Grows with the D. Stramonium around Charleston.

Flowers May—September. *Purple Jimson weed.*

ATROPA. Gen. pl. 335.

Corolla campanulata. *Stamina* distantia. *Bacca* globosa, 2-locularis.

Corolla campanulate. *Stamens* distant. *Berry* globose, 2 celled.

1. **Physaloides.**

A. caule herbaceo; foliis sinuato-angulatis; calycibus clausis, acutangulis. Sp. pl. 1. p. 1017.

Stem herbaceous; leaves sinuate, angled; calyx closed, with the angles acute.

Nicranda physalioides, Persoon, 1. p. 219. Pursh, 1. p. 158.

Annual. *Stem* 12—18 inches high, with many branches. *Leaves* alternate, ovate, sinuate, with the angles acute, glabrous. *Flowers* solitary, axillary, on short peduncles; angles at the base of the *calyx* very acute, somewhat sagittate. *Corolla* pale blue.

Found occasionally on rich soils, around buildings. A native probably of Europe.

Flowers through the summer.

PHYSALIS.

Corolla rotata. *Stamina* conniventia. *Bacca* intra calycem inflatum bilocularis.

Corolla rotate. *Stamens* connivent. *Berry* 2 celled, inclosed in an inflated calyx.

1. LANCEOLATA. Mich.

P. erecta, pubescens; foliis ovali-lanceolatis, integerrimis; calycibus villosis. E.	Erect, pubescent; leaves oval lanceolate, very entire; calyx villous.

Mich. 1. p. 149.
Persoon, Syn. pl. 1. p. 220.
P. Peruviana, Walt. p. 100.

Root creeping, perennial. *Stem* 1---2 feet high, erect, somewhat branched, angled, very pubescent. *Leaves* alternate, sometimes 2 at each division of the stem, almost tomentose, narrowed at base into a petiole sometimes an inch long. *Flowers* solitary, nodding. *Calyx* generally truncate, sometimes concave at base. *Corolla* pale yellow, marked with obscure, purple spots.

I believe this to be the only perennial species in this country.

Grows in dry soils, about fields, gardens, &c.

Flowers June---August.

2. ANGULATA ?

P. ramosissima, ramis angulatis, glabris; foliis ovatis, dentatis. Sp. pl. 1. p. 1022.	Much branched, branches angular, glabrous; leaves ovate, dentate.

Walt. p. 99.

Stem erect, and like the whole plant glabrous. *Leaves* broad, ovate, irregularly toothed, on long slender petioles. *Flowers* axillary, on very slender peduncles that become long with age. *Corolla* small, yellow, spotted at base. *Anthers* pale blue. *Calyx* of the fruit slender, long.

Collected near Savannah, by Mr. Oemler.

Flowers through the summer.

3. PENNSYLVANICA.

P. foliis ovatis, subrepandis, obtusis, nudiusculis; caule herbaceo, ramoso; pedunculis solitariis, petiolis paulo longioribus. Pursh, 1. p. 157.	Leaves ovate, somewhat repand, obtuse, naked; stem herbaceous, branching; peduncles solitary, a little longer than the petioles.

Sp. pl. 1. p. 1021,

Stem about a foot high, somewhat angled, and downy. *Leaves* naked on the upper surface, obscurely tomentose on the under. *Ca-*

lyx somewhat cylindrical, slightly angled. *Corolla* yellow, obscure at the base. *Stamens* yellow. *Berry* small, red. Linn.

Grows along the sides of roads among rubbish, &c. from Pennsylvania to Carolina. Pursh. I have seen specimens from Pendleton, South-Carolina, that appear to belong to this species.

Flowers June---August.

4. Pruinosa.

P. divaricato-ramosissima, prostrata; foliis ovatis, acuminatis, inæqualiter dentatis; calycibus majusculis. E.	Divaricate, much branched, prostrate; leaves ovate, acuminate, unequally toothed; inflated calyx very large.

Sp. pl. 1. p. 1023.
P. obscura, Mich. 1. p. 149. Pursh, 1. p. 157.

Root annual. *Stem* angled, slightly scabrous and pubescent, at first erect, dichotomous, expanding so widely as to become prostrate. *Leaves* slightly rugose, pubescent, 1---2 or 3 at each division; petioles 2---5 inches long. *Flowers* solitary, axillary, nodding. *Corolla* pale, with 5 purple, villous spots near the base. *Stamens* half as long as the corolla, hairy, purple. *Anthers* pale blue. Persistent *calyx* 5 angled, unusually large.

This appears to be certainly the plant figured in Dill. Hort. Elth. t. 9. f. 9.

Grows in cultivated lands.

Flowers September---November.

5. Viscosa?

P. foliis subgeminis, ovalibus, repandis, pubescentibus; caule, herbaceo, superne paniculato; calycibus fructiferis pubescentibus. Pursh, 1. p. 157.	Leaves sometimes by pairs, oval, repand, pubescent; stem herbaceous, towards the summit paniculate; fruit-bearing calyx pubescent.

Sp. pl. 1. p. 1021. Mich. 1. p. 149.

Root annual, somewhat fusiform. *Stem* erect, 2--3 feet high, dichotomous, glabrous below, the young branches pubescent and viscid. *Leaves* alternate, generally 1 at each division of the stem, lanceolate, acuminate, toothed, repand, slightly viscid and sprinkled with hairs; petiole 2---3 inches long. *Flowers* solitary, in the divisions of the stem; peduncles 1 inch long, erect when the flower expands, afterwards nodding. *Calyx* campanulate, 10 nerved, concave, at base pubescent. *Corolla* campanulate, twice as long as the calyx, pubescent, yellow, marked near the base with 5, obscure, villous spots. *Filaments* as long as the corolla, inserted into its base. *Anthers* erect, pale blue. *Germ* superior. *Style* as long as the stamens. *Stigma* capitate. *Berry* globose, enclosed by the inflated, 5 angled, persistent calyx. *Seeds* reniform, immersed in the pulp of the berry.

Grows in cultivated grounds, along roads. Common.

Flowers July---October. *Ground cherry.*

6. PUBESCENS.

P. foliis villoso-viscosis, subcordatis; caule ramosissimo; floribus solitariis, pendulis; calycibus fructiferis, subrotundo-globosis, angulatis. Sp. pl. 1. p. 1028.

Leaves villous, viscous, slightly cordate; stem very much branched; flowers solitary, pendulous; fruit-bearing calyx nearly globose, slightly angled.

Pursh, 1. p. 157.
P. tomentosa? Walt. p. 92.

Plant almost hispid. *Leaves* broad, ovate, irregularly toothed, and angled, slightly cordate. *Peduncles* shorter than the petiole. *Calyx* tomentose.

Grows on the sandy shores of Carolina. Pursh. I have specimens which appear to belong to this species collected in Pendleton county, with the P. Pennsylvanica, by Messrs. Baker and Perry.

Flowers June---July.

SOLANUM. GEN. PL. 337.

Corolla rotata. *Antheræ* subcoalitæ, apice poro gemino dehiscentes. *Bacca* 2-locularis.

Corolla rotate. *Anthers* united, opening at the point by a double pore. *Berry* 2 celled.

1. NIGRUM.

S. caule inermi, herbaceo; foliis ovatis, dentato-angulatis; racemis distichis, nutantibus. Sp. pl. 1. p. 1035.

Stem unarmed, herbaceous; leaves ovate, toothed, angled; racemes distichous, nodding.

Var. Virginicum; ramis angulatis, dentatis; foliis repandis, glabris.	It *varies* with branches angled, toothed; leaves repand, glabrous.

Root perennial? *Stem* herbaceous, erect, 2---3 feet high, angles roughened; young branches pubescent. *Leaves* sprinkled with hair, abruptly narrowed, then tapering at base; petioles 2---3 inches long. *Flowers* nodding, in umbels 3---9 flowered, between the leaves. *Calyx* one leaved, persistent; tube turbinate, pubescent; border 5 cleft; segments oval, acute. *Corolla* white, inserted into the calyx, yellow at base, pubescent; tube very short; border 5 cleft; segments acute, expanding, somewhat reflected. *Filaments* inserted into the tube of the corolla, short. *Germ* superior. *Style* longer than the stamens, hairy at base, curved near the summit. *Stigma* capitate. *Berry* black, 2 celled. *Seeds* many in each cell, lenticular.

Grows in rich, damp soils.

Flowers through the summer, beginning in April.

2. MAMMOSUM.

S. caule aculeato, herbaceo; foliis cordatis, angulato-lobatis, utrinque villosis aculeatisque. Sp. pl. 1. p. 1041.	Stem prickly, herbaceous; leaves cordate, angled and lobed, villous on both sides and prickly.

Pursh, 1. p. 156.

Annual. *Leaves* equal in length and breadth, rather obtuse. *Fruit* yellow, of the figure of a small inverted pear. Linn.

I possess specimens collected near Louisville, Georgia, by Mr. Jackson, which may possibly belong to this species. *Leaves* broad, nearly oval, slightly angled, villous on both sides and prickly along the veins, sometimes obtuse at base, but scarcely cordate, on very short petioles. *Stem* villous and prickly. *Flowers* in loose racemes, terminal, and opposite the leaves. *Corolla* pale yellow, about the size of that of the S. Carolinense. The *fruit* I have not seen.

Grows on the sea coast of Virginia and Carolina. Pursh.

Flowers June—August.

3. VIRGINIANUM.

S. caule erecto, aculeato; foliis pinnatifidis, undique aculeatis; laciniis	Stem erect, prickly; leaves pinnatified, prickly on all sides; segments

sinuatis, obtusis, margine ciliatis; calycibus aculeatis. Sp. pl. 1. p. 1041.	sinuate, obtuse, with the margins ciliate; calyx prickly.

Pursh, 1. p. 156.

Branches angled. *Prickles* numerous, white. *Fruit* small, greenish white.

Grows in sandy soils, from Virginia to Carolina. Pursh.
Flowers July.

4. CAROLINENSE.

S. caule aculeato, annuo; foliis hastato-angulatis. aculeis utrinque tectis; racemis laxis. Sp. pl. 1. p. 1043.	Stem aculeate, annual; leaves hastate angled, prickly on both sides; racemes loose.

Mich. 1. p. 150.

Root perennial. *Stem* herbaceous, erect, 1—2 feet high; branches expanding, hairy, hairs star-like; armed with sharp prickles. *Leaves* ovate lanceolate, sinuate, scabrous, the veins on each side armed with prickles, and the leaves covered with star-like hair. *Flowers* in lateral, simple racemes, 4—7 flowered between the leaves. *Calyx* hairy and aculeate. *Corolla* obscure white.

Grows in cultivated grounds. Very common.
Flowers May—July. *Horse-nettle.*

SABBATIA.

Calyx 5—12 partitus, persistens. *Corolla* rotata, 5—12 partita. *Stigmata* 2, spiralia. *Antheræ* demum revolutæ. *Capsula* 1-locularis, 2-valvis.	*Calyx* 5—12 parted, persistent. *Corolla* rotate, 5—12 parted. *Stigmas* 2, spiral. *Anthers* finally revolute. *Capsule* 1 celled, 2 valved.
* *Floribus albis.*	* *Flowers white.*

1. PANICULATA. Mich.

S. ramosissima; panicula diffusa; foliis lineari-lanceolatis; caule subte-	Much branched; panicle diffused; leaves linear-lanceolate; stem

reti; ramis alternis; corolla alba. E.	nearly terete; branches alternate; corolla white.

Pursh. 1. p. 138.
Chironia paniculata, Mich. 1. p. 146.

Stem 1—2 feet high, nearly terete, slightly marked by a decurrent line, much and diffusely branched; branches alternate. *Leaves* linear-lanceolate, or linear. Tube of the *calyx* very small; segments setaceous, shorter than the corolla. *Corolla* 5 parted; segments lanceolate. *Filaments* short. *Anthers* revolute.

Though the description of Michaux applies more peculiarly to the S. corymbosa, yet as this species was certainly included, and is the only one to which the term *paniculata* is correctly applicable, I have referred to him here.

Grows in damp pine barrens. Common.
Flowers July—October.

2. CORYMBOSA. Baldwin.

S. foliis ovatis, acutis, arcte sessilibus; caule subangulato; floribus corymbosis; corollis albis. E.	Leaves ovate, acute, closely sessile; stem nearly square; flowers in corymbs; corolla white.

Chironia lanceolata, Walt. p. 95.

Stem erect, nearly square; branches near the summit, opposite, brachiate. *Leaves* somewhat amplexicaule, sometimes obtuse *Corolla* generally 6 parted, much longer than the calyx. *Stamens* generally 6.

This and the preceding species have evidently been confounded in the C. lanceolata of Walter and paniculata of Michaux, yet they are very distinct.

To Dr. Baldwin I am indebted for calling my attention to the white flowered species of Sabbatia, and pointing out the peculiar features of this species and the paniculata. He has remarked also that this continues in flower but a short time.

It may be worthy of remark, that the corolla of this species changes in drying to a deep orange colour, while in the others it continues a pale white.

Varies *(angustifolia)*; with leaves linear-lanceolate, sometimes linear; segments of the calyx subulate, nearly as long as the corolla. To this variety may probably belong the C. lanceolata of Walter.

Grows in wet pine barrens.
Flowers June—July.

*** Floribus roseis.*

*** Flowers rose coloured.*

3. GRACILIS? Mich.

S. foliis lanceolatis, superioribus linearibus; floribus corymbosis; corollis calyce triplo longioribus. E.

Leaves lanceolate, the upper linear; flowers corymbose; corolla three times longer than the calyx.

Mich. 1. p. 146.
S. stellaris, Pursh, 1. p. 137.

Root annual? *Stem* erect, terete, slightly furrowed, 12—18 inches high. *Leaves* opposite, sessile, entire, somewhat fleshy, obscurely 3 nerved, linear near the branches. *Flowers* solitary, on opposite, brachiate branches, forming a small corymb. *Calyx* turbinate; border 5 cleft; segments linear, much smaller than the corolla, enlarging with the increase of the capsule. *Corolla* rotate, tube very short; border 5 parted; segments obovate, obtuse; the base bright yellow, elegantly circumscribed by an angular crimson line. *Filaments* 5, just as long as the yellow base of the corolla, inserted into the tube between the segments. *Anthers* oblong, sagittate, yellow, revolute. *Germ* superior. *Style* very short, 2 cleft. *Stigma* oblong, obtuse, spiral. *Capsule* oval, glabrous. *Seeds* numerous.

Grows in damp, saline coves, and along the edges of marshes on the sea islands.

Flowers July—September.

4. BRACHIATA. E.

S. foliis lanceolatis; panicula? elongata; ramis brachiatis, plerumque trifloris; corollis calyce duplo longioribus. E.

Leaves lanceolate; panicle long; branches brachiate, generally three flowered; corolla twice as long as the calyx.

Stem erect, very slightly angled. *Leaves* all lanceolate. *Branches* brachiate, expanding, forming a pyramidal panicle Segments of the *calyx* linear lanceolate. *Corolla* of a bright rose colour; petals obovate.

I have not been able to ascertain what value can be placed on characters taken in this genus, from the comparative length of the calyx and corolla The Chironia campanulata of Linnæus is nearly allied to this, and more nearly to the preceding species, but is described as having a calyx as long as the corolla. The original specimens of the C. campanulata were collected in Canada by Kalm, and the plant may therefore be distinct from our southern species. I have, to avoid confusion, relied on the description of Linnæus, and considered our southern species as distinct.

Grows in the middle and upper country of Carolina. Near Columbia: Mr. Herbemont.

Flowers June—August.

5. ANGULARIS.

S. caule angulato, alato; foliis cordato-ovatis, amplexicaulibus; floribus corymbosis. E.	Stem angled, winged; leaves cordate ovate, amplexicaule; flowers in corymbs.

Pursh, 1. p. 137.
Chironia angularis, Sp. pl. 1. p. 1067. Walt. p. 95. Mich. 1. p. 146.

Stem erect, 2 feet high, glabrous, square, the angles winged; branches opposite, brachiate. *Leaves* sometimes 5 nerved, ternate. Tube of the *calyx* angled; segments 5, wide, subulate. *Corolla* 5 parted; segments oval and obovate, many times longer than the calyx. *Filaments* 5, short. *Anthers* revolute, yellow. *Style* longer than the stamens. *Stigma* linear, spiral.

Grows in rich, humid soils.

Flowers July—August.

This plant, according to Barton, is "commonly employed both by physicians, and as a domestic remedy. Every part of the plant is intensely bitter." He further adds, that in the year 1793 it was much employed and with much benefit in certain stages of the yellow fever. In this State it is a common remedy in intermittent fever. Every part of the plant is used. The S. gracilis and some of the rest are equally efficacious. Incorrectly called *Centaury* or *Centry*.

6. CALYCOSA. Mich.

S. caule erecto, paucifloro; foliis ovalibus, obtusis, sessilibus; laciniis calycis foliaceis, corolla plerumque longioribus. E.	Stem erect, few flowered; leaves oval, obtuse, sessile; segments of the calyx leafy, frequently longer than the corolla.

Pursh, 1. p. 138.
Chironia calycosa, Mich. 1. p. 147.
——— dichotoma, Walt. p. 95.

Stem not always erect, about 1 foot high, slightly angled; branches very few, frequently none. *Leaves* closely sitting, oval, 3 nerved, thin, membranous. *Flowers* terminal, frequently solitary. *Calyx* generally 10 parted; segments lanceolate, leafy, sometimes not half as long as the corolla. *Corolla* 7—10 parted, rose coloured; segments lanceolate. *Anthers* revolute. *Style* twice as long as the stamens. *Stigmas* spiral.

Varies; with leaves lanceolate, and with the calyx longer or shorter than the corolla, and probably comprehends more species than one.

Grows in rich and wet soils, in marshes on the margins of fresh water rivers.

Flowers June—September.

7. Chloroides.

S. debilis; foliis lanceolatis erectis; ramis paucis unifloris; floribus 7—12 partitis, laciniis calycis linearibus, corolla brevioribus. Pursh, 1. p. 138.	Stem weak; leaves lanceolate, erect; branches few, 1 flowered; flowers 7—12 parted; segments of the calyx linear, shorter than the corolla.

Mich. 1. p. 146.
Chlora dodecandra, Sp. pl. 2. p. 341.

This species, like the preceding, varies much, and probably now includes several distinct species.

Varies; *a. erecta;* with the stem rigid, erect; leaves linear; corolla generally 10 parted, segments lanceolate. Chironia decandra, Walt. p. 95.
b. coriacea; with the stem erect; sparingly branched; leaves lanceolate, the lower ones nearly elliptical; corolla 8 parted, segments obovate? very thick and coriaceous. From specimens collected near St. Mary's, Georgia, by Dr. Baldwin.
c. flexuosa; with the stem flexuous; leaves linear lanceolate, corolla 12 parted, segments long, lanceolate; stigmas revolute? Chironia dodecandra, Walt. p. 95.

In my specimens of this last variety the flower is nearly 3 inches in diameter, and the stigmas distinctly revolute.

Grows in bogs and around pine barren ponds.

Flowers July—September.

8. Gentianoides.

S. foliis longis, linearibus; floribus axillaribus, sessilibus, supremis confertis; corollis subdecempartitis. E.	Leaves long, linear; flowers axillary, sessile, the upper ones crowded; corolla generally 10 parted.

Stem erect, slightly angled. *Leaves* long (2—3 inches), linear, acute. *Flowers* axillary and terminal, the terminal ones clustered as in some species of Gentian. *Calyx* campanulate; border frequently 8 parted; segments subulate, rather longer than the tube. From the base of the calyx arise two subulate *bracteas*, dilated at base, and as long as the corolla. *Corolla* about 8 parted, rose coloured; segments obovate, acute, twice as long as the calyx. *Stamens* short. *Anthers* rather spiral than revolute.

From specimens collected by Mr. Abbot, in Bullock county, Georgia, growing in and around the shallow pine barren ponds.

Flowers August.

BUMELIA. GEN. PL. 1736.

Corolla 5-fida. *Nectarium* 5-phyllum. *Drupa* monosperma.	*Corolla* 5-cleft. *Nectary* 5 leaved. *Drupe* 1 seeded.

1. LYCIOIDES.

B. spinosa, erecta; foliis lato-lanceolatis, utrinque glabris. Pursh, 1. p. 155.	Spinous, erect; leaves broad, lanceolate, smooth on both sides.

Sideroxylon lycioides, Mich. 1. p. 122. Sp. pl. 1. p. 1090.
———— læve, Walt. p. 100.

A small tree, with the branches smooth and slightly flexuous. *Leaves* lanceolate, on short petioles, alternate on the young branches, clustered (3—6) on the old alternate buds. *Spines* short and strong, axillary. *Flowers* clustered (20—30), on the summit of the old buds. *Peduncles* about half an inch long, one flowered. *Corolla* greenish white. *Drupe*, as in all the succeeding species, nearly black.

Grows in damp soils.

Flowers May—June.

The wood, though not used by mechanics, is extremely hard, heavy and irregularly grained.

2. RECLINATA.

B. spinosa, diffusa; ramis sterilibus divaricatis; foliis parvulis, obovatis, glaberrimis. Pursh, 1. p. 155.	Spiny, spreading; the sterile branches divaricate; leaves small, obovate, very smooth.

Sideroxylon reclinatum, Mich. 1. p. 122.

A small straggling shrub.

Grows along the banks of rivers in Georgia. Mich.

Flowers June—July.

3. TENAX.

B. spinosa; foliis cuneato-lanceolatis, plerumque obtusis, subtus sericeo-nitentibus.	Spiny; leaves wedge shaped lanceolate, frequently obtuse, silky underneath.

Bumelia tenax, Sp. pl. 1. p. 1085.
——— chrysophylloides, Pursh, 1. p. 155.
Sideroxylon chrysophylloides, Mich. 1. p. 123.
——— sericeum, Walt. p. 100.

A small tree sometimes 20—30 feet high; young branches slender, straight, flexible, and, as in all of the species, very difficult to break. The *Flowers*, also the mode of flowering and the drupes are similar in all. The *leaves* in this species are clothed on the under surface with a soft, white, silky down. *Drupes* oval.

Grows in dry sandy soils.
Flowers June—July.

4. LANUGINOSA. Mich.

B. spinosa; ramulis patentissimis, pubescentibus; foliis ovali-lanceolatis, subtus lanuginosis.	Spiny; branches expanding, pubescent; leaves oval lanceolate, woolly on the under surface.

Pursh, 1. p. 155.
Sideroxylon lanuginosum, Mich. 1. p. 122.
——— tenax? Walt. p. 100.

Smaller than the preceding species. *Leaves* frequently obtuse obovate, clothed with a ferruginous down on the under surface. *Drupes* globose.

Grows in light soils.
Flowers June—July.

RHAMNUS. GEN. PL. 358.

Calyx tubulosus. *Corollæ* squamæ stamina munientes, calyci insertæ. *Bacca* 3—4 sperma.	*Calyx* tubular. Scales of the *corolla* protecting the stamens, inserted into the calyx. *Berry* 3—4 seeded.

1. CAROLINIANUS.

R. inermis ; foliis alternis, ovali-oblongis, integriusculis, costatis, glabris ; umbellis pedunculatis ; floribus omnibus fertilibus.	Unarmed ; leaves alternate, oval oblong, entire, ribbed, glabrous ; umbels on peduncles ; flowers all fertile.

Walt. p. 101. Mich. 1. p. 153. Pursh, 1. p. 166.

A shrub 4—6 feet high. *Leaves* oblong lanceolate, sometimes acuminate, ribbed with parallel veins. *Flowers* in small umbels 4—6 flowered on axillary branches, frequently tetrandrous. *Berry* globose, 4 seeded.

Grows in fertile soils. Common along the sea coast.

Flowers May—June.

2. MINUTIFLORUS. Mich.

R. foliis oppositis. ovato-lanceolatis, serratis, lucidis ; floribus minutissimis, dioicis, in paniculis spicatis, terminalibus. E.	Leaves opposite, ovate lanceolate, serrate, lucid ; flowers very small, dioicous. in terminal, spiked panicles.

Mich. 1. p. 154. Pursh, 1. p. 166.

A shrub 6—8 feet high, much branched. *Leaves* nearly sessile, sometimes acuminate, small, shining, veiny, not ribbed. *Flowers* very minute, sessile, (in my specimens opposite). (alternate, Mich.) in small terminal panicles, pentandrous. (*Style* 3 cleft. *Berry* 3 seeded. Mich.)

The great difference in the habit of these two plants renders it probable that they do not belong to the same genus ; but I have had no opportunity of examining this species, having only seen it once, imperfectly in flower, in Michaux's old garden, near Charleston.

Grows along the sea coast from Carolina to Florida. Mich.

Flowers October—November.

ZIZYPHUS.

Calyx tubulosus. *Corollæ* squamæ stamina munientes, calyci insertæ. *Drupa* nuce mono vel disperma.	*Calyx* tubular. Scales of the *corolla* protecting the stamens, inserted into the calyx. *Drupe* with the nut 1 or 2 seeded.

1. VOLUBILIS.

Z. inermis ; foliis ovatis, costatis, integerrimis, subundulatis ; umbellis pedunculatis, axillaribus ; caule volubili. Sp. pl. 1. p. 1102.	Unarmed ; leaves ovate, ribbed, very entire, slightly undulate ; umbels on peduncles, axillary ; stem twining.

Pursh, 1. p. 188.
Rhamnus volubilis, Walt. p. 101. Mich. 1. p. 153.

Stem twining over shrubs and small trees, with many small branches. *Leaves* alternate, oval and ovate, acute, glabrous. *Flowers* in small umbels or racemes, axillary and terminal, dioicous. *Drupe* oval, generally one seeded, purple.

In the structure of its leaves and in its mode of flowering, very nearly allied to the Rhamnus Carolinianus, from which it has been separated perhaps unnecessarily on account of its fruit.

Grows in damp, rich clayey soils. The stem when green is very flexible and tough.

Flowers May—June. *Supple Jack.*

CEANOTHUS. GEN. PL. 361.

Petala 5, saccata, fornicata. *Bacca* (capsula ?) sicca, 3-locularis, 3-sperma.	*Petals* 5, sack-like and arched. *Berry* (or capsule ?) dry, 3 celled, 3 seeded.

1. AMERICANUS.

C. foliis ovato-lanceolatis, acutis, triplinervibus, serratis, pilosis ; paniculis axillaribus, longe pedunculatis. E.	Leaves ovate lanceolate, triply nerved, acute, serrate, hairy ; panicles axillary, on long peduncles.

Sp. pl. 1. p. Walt. p. 101. Mich. 1. p. 154. Pursh, 1. p. 167.

Root very large for the size of the plant, dark red. *Stem* frutescent, 2—5 feet high, the young branches pubescent. *Leaves* 2 inches long, 1 wide, acutely serrate, nerved, the veins underneath very hairy but scarcely tomentose ; petioles half an inch long, pubescent. The common peduncles longer than the leaves, pubescent ; the partial half an inch long, glabrous. *Panicle* composed of clustered racemes. *Calyx* turbinate, persistent, white ; border 5 cleft ; the segments acute, inflexed. *Petals* white, deciduous, clawed, compressed, obtuse, inserted into the calyx between the segments, enclosing the stamens.

Filaments short, incurved, inserted into the base of the petals. *Anthers* nearly globular, incumbent, reflexed, 2 celled. *Germ* 3 angled, the base clothed by the calyx, the upper part surrounded by a purplish, dentate, nectariferous ? ring. *Style* as long as the stamens, 3 cleft. *Stigmas* simple, obtuse. *Berry?* dry, 3 angled, obtuse, hollowed at the summit, 3 celled. *Seed* one in each cell, oval, slightly angled on the inner side.

Grows in light soils.

Flowers May—July. *Red-root New-Jersey tea-tree.*

The bark of the root is intensely astringent, and may be used in all cases where the use of astringents is indicated, in the form of infusion, tincture or powder. It is of a dark red colour, which it imparts to water or alcohol.

2. INTERMEDIUS ? Muhl. Cat.

C. foliis parvulis, lanceolatis, serratis, parce pilosis ; racemis paniculatis, axillaribus, longe pedunculatis. E.	Leaves small, lanceolate, serrate, slightly hairy ; racemes paniculate, axillary, on long peduncles.

Pursh, 1. p. 167.

In habit very similar to the preceding species, but every way smaller. The *leaves* 6—8 lines long, 2—4 wide, slightly serrate, strictly lanceolate, 3 nerved, hairy along the nerves. *Panicle* small, and the racemes almost simple.

From specimens collected near the Oconee, Georgia, by Mr. Jackson.

Flowers

3. PERENNIS. Pursh.

C. foliis ovalibus, subserrulatis, glabris ; paniculis thyrsoideis, terminalibus axillaribusque. Pursh. 1. p. 167.	Leaves oval, slightly serrulate, glabrous ; panicles thyrsus formed; terminal and axillary.

Leaves as large as those of the C. Americanus, but glabrous. *Stems* generally die down to root every winter. Pursh.

Grows on rocks near rivers, in Virginia and Carolina.

Flowers May.

4. MICROPHYLLUS. Mich.

C. foliis minutis, obovatis, integriusculis, fasci-	Leaves very small, obovate, nearly entire,

culatis, glabris ; racemis corymbosis, terminalibus, E.	clustered, glabrous ; racemes corymbose, terminal.

Mich. 1. p. 154. Pursh, 1. p. 167.

Stems many from each root, 1—2 feet high, branches long, slender but straight, all smooth and yellow. *Leaves* very small, clustered, glabrous, 3 nerved, obovate, sometimes when young, sparingly toothed. *Racemes* simple, clustered, resembling corymbs.

Roots, as in all of the species, very large.

Grows in dry pine barrens, in Chatham county, Georgia, common. Flowers early in April.

EUONYMUS. Gen. pl. 373.

Corolla 5-petala. *Capsula* 5-gona, 3—5-locularis, 3--5-valvis, colorata. *Semina* calyptrata.	*Corolla* 5 petalled. *Capsule* 5 angled, 3—5 celled, 3—5 valved, coloured. *Seed* veiled.

1. Americanus.

E. ramis 4-angulatis ; foliis elliptico-lanceolatis, acutis, serratis ; pedunculis subtrifloris ; floribus omnibus 5-fidis ; fructibus verrucoso-muricatis. Pursh, 1. p. 168.	Branches 4 angled ; leaves elliptic lanceolate, acute, serrate ; peduncles generally 3 flowered ; flowers all 5-cleft ; fruit roughened, warty.

Sp. pl. 1. p. 1132. Walt. p. 102. Mich. 1. p. 155.

A shrub 4—5 feet high, terete, glabrous, branches opposite, brachiate ? slender, finely furrowed. *Leaves* oblong, acute, opposite, nearly sessile, somewhat cordate ; penducles axillary. *Calyx* very small, 5 parted. *Petals* expanding, flat, obovate, small, green, tinged with purple. *Stamens* shorter than the corolla. *Capsule* rough, succulent. *Seed* 1 in each cell covered with a rough scarlet coat ? resembling a berry, adhering to the capsules after they expand.

Grows in rich, damp soils. Ornamental when the fruit is mature. Flowers April—May. *Strawberry tree. Spindle tree.*

2. Angustifolius. Lyon.

E. ramis 4-angulatis ; foliis lineari-ellipticis, sub-	Branches 4 angled ; leaves linear elliptic,

falcatis, subintegerrimis; pedunculis plerumque unifloris: floribus omnibus 5-fidis; fructibus verrucoso-muricatis. Pursh, 1. p 168.

slightly scythe shaped, nearly entire; peduncles generally 1 flowered; flowers all 5 cleft; fruit roughened, warty.

Leaves nearly sessile. Nearly allied to the preceding species, but it was said by Mr. Lyon, by whom it was discovered, to preserve its character when raised from seed. It is still however a doubtful species.

Grows in fertile soils in woods, in the western districts of Georgia.

3. ATROPURPUREUS.

E. foliis petiolatis, oblongo-lanceolatis, acuminatis, serratis; pedunculis divaricatis, multifloris; floribus 4-fidis; fructibus lævibus. Pursh, 1. p. 168,

Leaves petiolate, oblong lanceolate, acuminate, serrate; peduncles divaricate, many flowered; flowers 4 cleft; fruit smooth.

Sp. pl. 1. p. 1132.

Leaves much longer than those of the E. Americanus. *Flowers* dark purple. *Fruit* red.

Grows on the banks of rivulets, from New-York to Carolina.

Flowers May—July.

ITEA. GEN. PL. 381.

Calyx 5-fidus. *Petala* 5, calyci inserta. *Stigma* capitatum, bilobum. *Capsula* 2-valvis, 2-locularis; valvis margine introflexo seminiferis.

Calyx 5 cleft. *Petals* 5, inserted into the calyx. *Stigma* capitate, 2 lobed. *Capsule* 2 valved, 2 celled; the valves bearing the seed along the inflexed margin.

VIRGINICA.

Sp. pl. 1. p. 1146. Walt. p. 102. Mich. 1. p. 156.

A shrub 3—6 feet high, branching, the young branches flexible and pubescent. *Leaves* alternate, lanceolate, acuminate, serrulate, with the veins pubescent, light green, the upper surface having a silky lustre; petioles 3—5 lines long. *Flowers* in terminal, simple racemes:

proper peduncle 2 lines long, with a subulate, deciduous bractea at its base. *Calyx* persistent. *Petals* white, lanceolate, glabrous on the outer surface, hairy within, 3 times as long as the calyx, inserted into its summit between the segments. *Filaments* shorter than the corolla, inserted into the calyx between the petals. *Anthers* incumbent, 2 celled, yellow. *Germ* superior, hairy. *Style* tapering, furrowed. *Stigma* obscurely 2 lobed. *Seeds* many in each cell, somewhat angular.

Grows in wet land, on the edges of rivulets and along ditches. Very common.

Flowers April—May.

CYRILLA. GEN. PL. 380.

Calyx minutus, 5-partitus. *Petala* 5, calyci inserta. *Stigmata* 2. *Bacca?* exsiccabilis, (capsula non dehiscens?) 2 locularis. *Semina* solitaria, funiculo appensa. Persoon, 1. p. 175.	*Calyx* minute, 5 parted. *Petals* 5, inserted into the calyx. *Stigmas* 2. *Berry* becoming dry, (or capsule not opening?) 2 celled. *Seed* solitary, attached to a small cord.

1. RACEMIFLORA.

C. foliis cuneato-lanceolatis, coriaceis, glaberrimis; petalis calyce triplo longioribus. E.	Leaves lanceolate wedge shaped at base, coriaceous, very smooth; petals 3 times as long as the calyx.

Walt. p. 103.
Cyrilla Caroliniana, Mich. 1. p. 158. Persoon, 1. p. 175.
Itea Cyrilla, Sp. pl. 1. p. 1146.

A large shrub, sometimes growing 15 feet high. The branches appear verticillate, and spring every year from the summit of the old wood, when young they are marked by the slightly decurrent leaf. *Leaves* alternate, very entire, sometimes obovate, growing only on the wood of the present year; petioles 3–4 lines long, slightly winged. *Flowers* in slender, simple, somewhat pendulous racemes, clustered at the summit of the last years branches. *Petals* 3 times as long as the calyx, inserted at the base of the germ. *Filaments* alternating with the petals, shorter than the corolla. *Anthers* incumbent, bifid at base, 2 celled. *Germ* superior? *Style* short, thick, turgid in the middle, the summit compressed, slightly 2 cleft. *Stigmas* 2, obtuse.

Grows in wet ground, around ponds and rivulets of the pine barrens.

Flowers June.

The outer bark of the oldest shrubs, near the ground, is extremely light and friable, and absorbs moisture with so much avidity that it may be used with advantage instead of Agaric and similar styptics. When rubbed betwen the hands it excites a sensation similar to that produced after immersing the hands in a strong astringent fluid. It forms a serviceable application to wounds or ulcers, where the indication is to cicatrize them.

GALAX. Gen. pl. 382.

Calyx 5-partitus. *Petala* 5. *Tubus* 10-fidus. laciniis 5 alternis brevioribus, antheriferis. *Stigma* 3 lobum. *Capsula* 3-locularis, 3-valvis, polysperma.	*Calyx* 5 parted. *Petals* 2. *Tube* 10 cleft, with 5 segments alternately shorter and bearing the anthers. *Stigma* 3 lobed. *Capsule* 3 celled, 3 valved, many seeded.

1. Aphylla. Sp pl. 1. p 1146.

Galax rotundifolia, Pursh, 2. p. 446.
Erythrorhiza rotundifolia, Mich. 2. p. 35.
Solanandra cordifolia, Ventenat. Malm. p. 69. Pers. 2. p. 215.

Perennial. *Root* creeping, of a deep red colour. Root *leaves* on long petioles, reniform or cordate, glabrous. *Scape* 12—18 inches long, naked, excepting that it is surrounded at base by scales. *Flowers* numerous, crowded on a long raceme, pedicels about 2 lines long. *Corolla* small, white.

Grows on mountains. Dr. Macbride.
Flowers May—August.

RIBES. Gen. pl. 390.

Petala 5, et stamina calyci inserta. *Stylus* 2-fidus. *Bacca* polysperma, infera.	*Petals* 5, and with the stamens inserted into the calyx. *Style* 2 cleft. *Berry* many seeded, inferior.

1. Rotundifolium. Mich.

R. spina subaxillari; foliis suborbiculatis, lobis subrotundo-obtusis; pedunculis 1-floris; limbo	Spine generally axillary; leaves nearly round, the lobes obtuse; peduncles 1 flowered; border

calycis tubuloso ; bacca glabra. Persoon, 1. p. 252.	of the calyx tubular ; berry glabrous.

Mich. 1. p. 110.

Grows on the high mountains of Carolina. Mich.

2. **GRACILE.** Mich.

R. spinula subaxillari ; foliis petiolis gracilibus, utrinque pubescentibus, lobis acutis, dentato-incisis ; pedunculis capillaribus, subbifloris ; calycibus tubulato-campanulatis ; baccis glabris.	Spine small, nearly axillary ; leaves on slender petioles, pubescent on each side, the lobes acute and deeply toothed ; peduncles capillary, generally 2 flowered ; calyx tubular campanulate ; berry glabrous.

Mich. 1. p. 111. Pursh, 1. p. 165.

Berries purple or blue, finely tasted. Pursh.

Grows on rock and in mountain meadows, from New-York to Carolina.

Flowers April—June.

VIOLA. GEN. PL. 1364.

Calyx 5-phyllus. *Corolla* 5-petala, irregularis, postice cornuta. *Antheræ* cohærentes. *Capsula* supera, 3-valvis, 1 locularis.	*Calyx* 5 leaved. *Corolla* 5 petalled, irregular, with a horn at base. *Anthers* cohering. *Capsule* superior, 3 valved, 1 celled.
* *Acaules.*	* *Stemless.*

1. **LANCEOLATA.**

V. acaulis ; foliis angusto-lanceolatis, oblongis, crenatis ; floribus albis. E.	Stemless ; leaves narrow lanceolate, oblong, crenate ; flowers white.

Sp. pl. 1. p. 1161. Mich. 2. p. 150. Pursh, 1. p. 173.

Root perennial. *Leaves* glabrous, the veins frequently opposite, tapering at the base, generally very narrow, 3—5 inches long, half an inch wide, sometimes however, a truly lanceolate leaf occurs. *Flowers* solitary. *Scape* 4—6 inches long, curved at the summit, furnished with 2 subulate scales above the middle. Leaves of the *calyx* acute, glabrous. The 2 lateral *petals* bearded. *Filaments* very short. *Anthers* nearly sessile, appressed to the germ, opening along the inner margins, terminated by an ovate, yellowish membrane. *Germ* superior, 3 angled. *Style* short, but longer than the stamens. *Stigma* capitate, obliquely concave. *Capsule* obtusely 3 angled. *Seeds* nearly globose, attached to a receptacle in the centre of each valve.

Grows in humid soils. Very abundant in wet pine barrens, but rare near the sea coast.

Flowers February—April.

2. Primulifolia.

V. acaulis; foliis oblongis, subcordatis, serratis; petiolis membranaceis. Sp. pl. 1. p. 1162.	Stemless; leaves oblong, somewhat heart shaped, serrate; petioles membranous.

Walt. p. 219. Pursh. 1. p. 173.

Perennial. *Leaves* serrate, glabrous, at first cordate, obtuse, afterwards acute, and the sinus at base nearly effaced as the wings along the petioles dilate, generally 2—3 inches long, 1½ wide, sometimes twice that size. *Scape* 3—4 inches long, 2 scales rather below the middle. *Corolla* white; the upper petal veined at base with purple, the lateral petals thinly bearded along the lower edge.

Both Walter and Michaux appear to have united this with the preceding species.

Grows in wet soils, along the sides of ditches. Very common.

Flowers February—April.

3. Villosa. Walt.

V. foliis cordatis, obtusis, pubentissimis, canescentibus; calyce acuto; floribus parvulis, cœrulescentibus. E.	Leaves cordate, obtuse, very pubescent, somewhat hoary; calyx acute; flowers small, pale blue.

Walt. p. 219.

Perennial. *Leaves* crenate, very downy rather than villous, soft, thick; the sinus at base small, open; when young the leaves acquire from the pubescence a hoary aspect, and are variegated with purple veins. *Petals* small, the 3 upper bearded, the 2 lower sprinkled with hairs. The late flowers, as remarked by Walter, frequently apetalous.

From the V. sagittata, with which it has been confounded, very distinct.

Grows in dry sandy soils. Leaves generally prostrate.

Flowers March—April.

4. ROTUNDIFOLIA. Mich.

V. acaulis; foliis orbiculato-cordatis, subdentatis, glabriusculis; petiolo pubescente; calyce obtuso; floribus luteis.	Stemless; leaves orbicular cordate, slightly toothed, glabrous; petioles pubescent; calyx obtuse; flowers yellow.

Mich. 2. p. 150.
V. clandestina? Pursh, 1. p. 173.

With this plant I am only acquainted through the description of of Michaux, who adds, that the sinus at base is closed.

Grows in the mountains of Carolina.

Flowers

5. BLANDA.

V. glabra; foliis cordatis, remote-serratis; pedunculis longitudine foliorum; petalis imberbibus, infimo reliquis longiore, lanceolato. Willd. Hort. Berol. 1. t. 24.	Glabrous; leaves cordate, remotely serrate; peduncles as long as the leaves; petals beardless, the lowest longer than the rest, lanceolate.

Pursh, 1. p. 172.

Leaves nearly acute and flat. *Flowers* yellowish white. The two lateral petals short, the lower marked with blue stripes and veins. Pursh.

Grows in wet soils, from New-York to Carolina.

Flowers April—June.

6. CUCULLATA.

V. acaulis; foliis cordatis, acutiusculis, glabris, basi cucullatis; floribus	Stemless; leaves cordate, somewhat acute, glabrous, hooded at base;

inversis; petalis oblique flexis. Sp. pl. 1. p. 1162.	flowers inverted; petals obliquely bent.

Pursh, 1. p. 173.
V. cordata, Walt. p. 219.

Perennial. *Leaves* sometimes reniform, crenate, when young the angles involute. Peduncles longer than the leaves, with the summit reflexed. *Petals* blue and purple, white at base; the base of the upper one with violet coloured veins; of the two lateral, bearded; of the lower, smooth.

Sometimes, though rarely, some of the older leaves become lobed.

Grows in damp, stiff clayey soils. Very common.

Flowers March—April.

7. ASARIFOLIA. Pursh.

V. acaulis, pubescens; foliis dilatato-reniformibus, acutis, crenato-dentatis, basi in petiolum attenuatis; pedunculis foliis multo brevioribus. Pursh, 2 p. 732.	Stemless, pubescent; leaves dilated reniform, acute, crenate or toothed, the base tapering to a petiole; peduncles much shorter than the leaves.

Collected by Catesby, in Virginia and Carolina, and described by Pursh from the herbarium of Sherard

The V asarifolia of Muhlenberg's Catalogue. which he afterwards proposed to call uliginosa, is a caulescent species, and very distinct from this.

Grows in damp, shady woods.

Flowers

8. SAGITTATA.

V. acaulis; foliis oblongis, acutis, cordato-sagittatis, serratis, basi incisis; floribus inversis. Sp. pl. 1. p. 1160.	Stemless; leaves oblong, acute, cordate sagittate, serrate, notched at base; flowers inverted.

Pursh, 1. p. 172.

Leaves very oblong, rather hastate, sagittate, dentate, the lower teeth increasing in length until at the lateral lobes the leaf becomes laciniate, pubescent, slightly ciliate. (Peduncles longer than the leaves. Segments of the *calyx* linear, glabrous. *Corolla* pale blue; the 3 lower petals bearded at base. Pursh.)

Grows near the mountains of Carolina. Mr. Le Conte.

Flowers March—April.

9. PALMATA.

V. acaulis; foliis cordatis, palmatis, quinquelobis, dentatis indivisisque.	Stemless; leaves cordate, palmate, 5 lobed, toothed and undivided.

Sp. pl. 1. p. 1159. Walt. p. 218. Mich. 2. p. 151. Pursh, 1. p. 172.

♃ Perennial. The first *leaves* frequently cordate, hairy, ciliate, undivided; afterwards variously dissected, glabrous, dotted or rather discoloured with purple; petioles hairy, longer than the stem. Peduncles 4 -6 inches long, hairy. *Petals* purple, the 3 upper ones bearded. the 2 lower naked.

Of this plant there appears to be many *varieties.* The following merit notice.

Var. a. vulgaris; the two exterior lobes of the leaves have frequently a small segment near the base. Grows very common in light soils.

b. fragrans; similar to the preceding, the leaves generally more dissected, the flowers of a brighter purple, and fragrant. Grows 13 miles from Savannah, on the great southern road.

c. dilatata; with leaves deeply 3 parted, the lateral segments 2 cleft, the exterior division dilated and toothed, sometimes dissected; the middle segments large, toothed; the whole plant very pubescent. This is the common variety in the upper districts of Georgia and Carolina.

d. heteropyhlla; with the early leaves cordate, late ones hastate, with the lateral lobes sometimes divided, all rugose, crenate and glabrous; the middle lobe very large. Peduncle sometimes 12 inches long. From the circumstance of its being eaten by negroes, I had called it V. esculenta, it is however the V. heterophylla of Muhlenberg, and differs from the other varieties much in size, and by its glabrous and rugose leaves.

Grows in river swamps. Common on the Ogeechee.

All of these varieties flower in March and April. *Wild Okra.*

This Violet is very mucilaginous and much used by negroes in their soups. In domestic practice the bruised leaves are employed as an emollient application.

10. PEDATA.

V. acaulis; foliis pedatis, septempartitis, laciniis lineari-lanceolatis, integris. Persoon, 1. p. 254. from Michaux.	Stemless; leaves pedate, 7 parted, segments linear lanceolate, entire.

Walt. p. 219. Mich. 2. p. 151.
V. digitata, Pursh, 1. p. 171.

Root perennial. The *leaves* afford generally a fine exemplification of a pedate leaf, where the 3 interior segments are attached to the inner side of the exterior segments; the segments are sometimes toothed, and the leaves occasionally slightly pubescent. *Corolla* blue, large in proportion to the size of the plant.

Grows plentifully in the upper districts of Carolina and Georgia; rarely found within sixty miles of the sea coast.

Flowers April—May.

** *Caulescentes.*	** *With stems.*

11. CANADENSIS.

V. caule erecto, teretiusculo; foliis cordatis, acuminatis, glabris; stipulis integris. Sp. pl. 1. p. 1166.	Stem erect, terete; leaves cordate, acuminate, glabrous; stipule entire.

Mich. 2. p. 150. Pursh, 1. p. 174.

Perennial. *Stem* simple, leafy towards the summit. *Leaves* cordate, dentate, with a long, tapering point; petioles scarcely exceeding half an inch. *Corolla* white. Plant slightly pubescent. *Stipules* very small, lanceolate.

Grows in the mountains of Carolina. Mich.

Flowers

12. STRIATA.

V. caule erecto, semitereti; foliis ovatis, cordatis, acutis, serratis; stipulis lanceolatis, serrato-ciliatis. Sp. pl. 1. p. 1166.	Stem erect, nearly terete; leaves ovate, cordate, acute, serrate; stipules lanceolate, fringed by the serratures.

V. debilis? Mich. 2. p. 150.
V. canina, Walt. p. 219.

Perennial. *Stem* much branched. *Leaves* acuminate, sprinkled with hairs, on short petioles. *Stipules* lacerate. *Peduncles* solitary, variable, sometimes 4 inches long, frequently not an inch. *Corolla* white.

From specimens collected in the mountains of Carolina, by Dr. Macbride.

The V. canina of Walter is a prostrate plant, with leaves obtusely cordate, sometimes orbiculate; peduncles one to two inches long, stipules lacerate; segments of the calyx very acute; corolla pale blue.

Grows in St. Johns: also on James' Island, opposite Charleston.

Flowers March—April.

13. HASTATA. Mich.

V. glabriuscula; caule simplici, summitate tantum folioso; foliis alternis, hastatis; stipulis minutis, denticulatis. Mich. 2. p. 149.

Glabrous; stem simple, leafy only at the summit; leaves alternate, hastate; stipules small, denticulate.

Pursh, 1. p. 174.

Perennial. *Stem* about a foot high, smooth. *Leaves* near the summit hastate, with the lobes obtuse, the apex acute, slightly serrate, glabrous, the veins on the upper surface sprinkled with minute hairs; petiole ½ to 2 inches long. *Flowers* axillary, solitary; peduncles longer than the petiole. *Calyx* acute. *Petals* yellow.

From specimens collected near Athens, Georgia, by Mr. Green.—Flowers March—April.

14. TRIPARTITA. E.

V. pilosa; caule simplici, summitate tantum folioso; foliis profunde tripartitis, lobis lanceolatis, dentatis; floribus luteis. E.

Hairy; stem simple, leafy only at the summit; leaves deeply 3 parted, the lobes lanceolate, dentate; flowers yellow.

Perennial. *Stem* about a foot high; the young plant villous. *Leaves* divided to the base, sometimes ternate, very hairy; segments sometimes acuminate; stipules lanceolate, villous, entire or serrulate. Peduncles long, slender, with 2 minute, alternate scales near the middle. *Calyx* acute. *Petals* yellow, the upper one beautifully streaked with purple.

From specimens collected near Athens, Georgia, by Mr. Green. Flowers March—April.

15. ARVENSIS.

V. caule angulato, sulcato; foliis ovato-lanceolatis, serratis; stipulis basi incisis; calyce pubescente, corollis sublongiore. Persoon, 1. p. 255.

Stem angled, furrowed; leaves ovate lanceolate, serrate; stipules incised at base; the calyx pubescent, rather longer than the corolla.

Annual? *Stem* erect, 10—12 inches high, glabrous, angled. Lower *leaves* spathulate, oval, nearly orbicular; the pedicels nearly an inch long; the upper leaves lanceolate, ciliate; stipules shorter than the leaves, the base pinnatifid; segments linear lanceolate, ciliate. *Calyx* ciliate, in my specimens, shorter than the corolla. *Petals* pale blue?

My specimens agree exactly with one sent me from Pennsylvania, by Dr Muhlenberg as the V. arvensis, and excepting in the proportional length of the calyx and corolla, and in the colour of the corolla, agree with the specific character of Persoon.

Found near the Chatahouchie river, Creek nation, by Dr. Latham.

Flowers

16. CONCOLOR.

V. caulibus erectis; foliis lato-lanceolatis, stipulique lanceolato-linearibus, integerrimis. Trans. Linn. Soc. 6. p. 309 t. 28.	Stems erect; leaves broad lanceolate, and with the lanceolate linear stipules very entire.

Pursh, 1. p. 175.

Perennial. *Stem* 1—2 feet high, slightly angled, weak, erect. *Leaves* lanceolate, long, acuminate, rugose, entire or irregularly toothed. *Stipules* linear lanceolate, entire. Peduncles very short. *Flowers* small, pale green. *Petals* 5, the 2 upper linear, recurved, entire; the 2 lateral linear, toothed, recurved; the lower one 2 parted. *Spur* very short. *Stigma* hooked, perforate, twice as long as the anther. Foster.

Grows in the deep, shaded vallies of the mountains of Carolina. Dr. Macbride.

Flowers June—July.

IMPATIENS. GEN. PL. 1365.

Calyx 2-phyllus. *Corolla* irregularis, calcarata. *Antheræ* connatæ. *Capsula* supera, 1-locularis, 5-valvis.	*Calyx* 2 leaved. *Corolla* irregular, bearing a spur. *Anthers* cohering. *Capsule* superior, 1 celled, 5 valved.

1. NOLI TANGERE.

I. pedunculis solitariis, multifloris; foliis ovatis, obtuse dentatis; geniculis caulinis tumentibus. Sp. pl. 1. p. 1176.	Peduncles solitary, many flowered; leaves ovate, obtusely dentate; knees of the stem swollen.

Mich. 2. p. 149. *var. a.* Pursh, 1. p. 171.

A tender, succulent, annual plant, 2—4 feet high, much branched, very smooth. *Stem* and branches flexuous. *Leaves* on long petioles, crenate, very glabrous, of a glaucous hue. *Peduncles* axillary. *Flowers* yellow, (unspotted. Pursh.)

Grows in wet soils, near rivulets.

Flowers July—October.

2. BIFLORA.

I pedunculis solitariis, plerumque bifloris : foliis ovatis, serratis ; floribus fulvis, maculis rubris. Walt. p. 219.	Peduncles solitary, generally 2 flowered : leaves ovate, serrate ; flowers tawny, with red specks.

Sp. pl 1. p. 1175. Pursh, 1. p. 171.
I. noli tangere, Mich. 1. p. 149. *var. b.*

Very similar to the preceding species. The *leaves* are said to be smaller and more acutely dentate. and the *flowers* less numerous and spotted. I have not had an opportunity of comparing them.

Grows in swamps and wet soils.

Flowers July—October.

CISSUS.

Bacca 2-locularis, 1—4-sperma. *Petala* reflexo-patula, decidua. *Nectarium* germen cingens.	*Berry* 2 celled. 1—4 seeded. *Petals* reflexed and spreading, deciduous. *Nectary* girding the germ.

1. BIPINNATA. Mich.

C. foliis bipinnatis, foliolis ovato-lanceolatis, inciso-dentatis lobatisque ; floribus corymbosis. E.	Leaves doubly pinnate, leaflets ovate lanceolate, deeply toothed and lobed ; flowers in corymbs.

Vitis arborea, Sp. pl. 1. p. 1183.
Hedera arborea, Walt. p. 102.
Ampelopsis bipinnata, Mich. 1. p. 160.
Cissus stans, Persoon, 1. p. 143. Pursh, 1. p. 170.

A vine-like shrub, twining around trees, branches very numerous, a little angular, thickened at the joints, glabrous, without tendrils. *Leaves* sometimes decompound ; leaflets slightly cordate, acute, with teeth mucronate, glabrous, veins nearly opposite and connected by a short ciliate membrane. *Corymbs* opposite the leaves ; peduncles compoundly dichotomous, pubescent. *Calyx* a mere margin girding the base of the germ, slightly undulate. *Corolla* deciduous, 1 petalled? deeply 5 parted; segments scarcely cohering at base, lanceolate, expanding, pubescent. *Filaments* 5, inserted into the germ at the base of the corolla, shorter than the corolla. *Nectary?* a membrane surrounding the germ within the stamens; the border truncate, but so waved as to resemble a ten lobed margin. *Germ* superior, ovate, glabrous, tapering to a very short *style*. *Stigma* obtuse. *Berry* globose, glabrous, black, 2 celled. *Seeds* 1—2 in each cell.

This plant, which has so often been removed, appears to be certainly a Cissus. The mere addition of a fifth part to the corolla and stamens is a circumstance too trivial to constitute a new genus, and if the original name, *arborea*, of Linnæus, which was incorrect, ought to be changed, the name given it by Michaux is certainly entitled to a preference.

Grows in damp, rich soils.

Flowers June—July.

2. HEDERACEA. Persoon.

C. caule radicante, scandente; foliis quinato-digitatis; paniculis compositis, oppositi-foliis; nectario 0?	Stem radicant, climbing; leaves digitate, by fives; panicles compound, opposite the leaves; nectary wanting?

Persoon, 1. p. 143.
Ampelopsis quinquefolia, Mich. 1. p. 160.
Hedera quinquefolia, Linn. Hort. Cliff. 74.
——— ——— —, Walt. p. 102.
Vitis hederacea, Willd. Sp. pl. 1. p. 1182.

Stem ascending lofty trees, adhering to the bark by short lateral fibres, sometimes attaching itself to walls or fences, glabrous. *Leaflets* connected at base, lanceolate, acuminate, entire near the base, strongly dentate near the summit, glabrous, the middle leaflets larger than the lateral. Petioles 4—6 inches long. *Panicle?* opposite the leaves, composed of compoundly dichotomous racemes on peduncles 1—3 inches long; pedicels 1—3 lines long, and with the peduncles glabrous and purple. *Petals* 4 times as long as the calyx, with the summit and margins so reflexed as to form a small hood. I could observe no *nectary* in this species as in the C. bipinnata. *Berry* 4 celled, 4 seeded.

Grows in soils somewhat humid.

Flowers in June.

Persoon remarks that this plant is admirably calculated to clothe naked walls; perhaps however for this purpose it is surpassed in facility of growth and beauty by the Bignonia radicans.

3. AMPELOPSIS. Persoon.

C. foliis cordatis, dentatis; paniculis dichoto-	Leaves cordate, toothed; panicles dichoto-

mis; floribus 5-andris. Persoon, 1. p. 142.	mous; flowers pentandrous.

Ampelopsis cordata, Mich. 1. p. 159.

Stem climbing. *Leaves* cordate, unequally dentate, hairy along the nerves; the base frequently straight, as if truncate. *Panicles* opposite the leaves, dichotomous, the branches expanding. *Nectary* persistent.

Grows in swamps near Granby, South-Carolina.

Flowers

CLAYTONIA. GEN. PL. 402.

Calyx 2-valvis. *Corolla* 5-petala. *Stigma* 3-fidum. *Capsula* 3-valvis, 1-locularis, 3-sperma.	*Calyx* 2 valved. *Corolla* 5 petalled. *Stigma* 3 cleft. *Capsule* 3 valved, 1 celled, 3 seeded.

1. VIRGINICA.

C. foliis lineari-lanceolatis; racemis solitariis; calycis foliis acutiusculis; petalis obovatis, retusis; radice tuberosa. Pursh, 1. p. 175.	Leaves linear lanceolate; racemes solitary; leaves of the calyx somewhat acute; petals obovate, retuse; root tuberous.

Sp. pl. 1. p. 1185. Mich. 1. p. 160.

Root tuberous, perennial. *Stem* herbaceous, erect, 6—10 inches high, terete, glabrous, simple. *Leaves* two, opposite, generally linear, entire, glabrous, connate, at base, 2—4 inches long, 1—2 lines wide. *Flowers* (4—18) in a simple raceme; peduncles ½—2 inches long, glabrous. *Spathe* a short, ovate, obtuse leaf at the base of the raceme. *Calyx* 2 leaved; leaves lanceolate, acute, entire, persistent. *Petals* oval, obtuse, striate, rose coloured, twice or three times as long as the calyx. *Filaments* half as long as the petals, dilated at base, inserted with the petals at the base of the germ. *Anthers* erect, oblong, rose coloured, 2 celled. *Germ* superior, ovate. *Style* longer than the stamens, 3 cleft at the summit. *Stigmas* linear, obtuse, glandular, slightly reflexed. *Capsule* nearly globose. *Seeds* somewhat lenticular, black, 1 or 2? in each valve, attached to a central receptacle.

Grows in shaded, rich soils. Columbia, Mr. Herbemont. At the head of Cooper river, Dr. Macbride.

Flowers March—April.

2. **Caroliniana.** Mich.

C. foliis spathulatis; raccmo solitario; calycis foliolis obtusis; petalis subrotundis, retusis; radice tuberosa. Pursh, 1. p. 175.	Leaves spathulate; raceme solitary; leaves of the calyx obtuse; petals nearly round, retuse; root tuberous.

Mich. 1. p. 160.
C. Virginica, *var. b.* Sp. pl. 1. p. 1185.

Leaves scarcely half an inch long, sometimes 2 pair upon a stalk. *Flowers* smaller than the preceding species, rose coloured, with purple veins. Mich.

Grows among the mountains of Carolina.
Flowers in March.

ANYCHIA. Mich.

Calyx connivens, laciniis oblongis. *Corolla* 0. *Filamenta* distincta. *Stigmata* 2. *Capsula* utricularia, non dehiscens. *Semen* 1.	*Calyx* connivent, the segments oblong. *Corolla* 0. *Filaments* distinct. *Stigmas* 2. *Capsule* like a bladder, not opening. *Seed* 1.

1. **Canadensis.**

A. caule erecto, dichotomo, pubescente; foliis lanceolatis; stipulis plerumque quaternis; calycis foliolis acutis. E.	Stem erect, dichotomous, pubescent; leaves lanceolate; stipules generally by fours; leaves of the calyx acute.

A. dichotoma, Mich. 1. p. 113. Pursh, 1. p. 176.
Queria Canadensis, Sp. pl. 1. p. 494.

Perennial. *Stem* 6—12 inches high, terete, very pubescent, towards the summit much branched. *Leaves* opposite, nearly glabrous, sessile, sprinkled along the margins occasionally with hairs, dotted on each side. *Stipules* commonly 4 at each joint, membranous, much shorter than the joints. *Flowers* solitary, terminal, but from the number of branches appearing to be in terminal fascicles or corymbs; 4 stipules at the base of each flower. *Calyx* 5 parted; segments somewhat hooded at the point, a little extended behind the summit. *Corolla* 0. *Stamens* shorter than the calyx. (*Stigmas* 2. Mich.)

This plant, whilst it differs in habit from the Queria Hispanica, as figured in Quers Flora Hispanica, vol. 6. t. 15. f 2. agrees so exactly with the Anychia of Michaux, that I cannot hesitate in placing it, as as he has done, in this genus.

Grows in dry soils, in the upper districts of Carolina, particularly Fairfield. Dr. Macbride.

Flowers July—August.

2. HERNIARIOIDES. Mich.

A. humifusa, conferta, undique pubescens; foliis oblongo ovalibus, ciliatis, mucronatis; laciniis calycis subulatis, acumine setaceo patuloque. Mich. 1. p. 113.

Prostrate, clustered, in every part pubescent; leaves oblong oval, ciliate, mucronate; segments of the calyx subulate, the point setaceous and expanding.

Pursh, 1. p. 176.

Collected in the upper districts of South-Carolina, by M. Correa de Serra.

Flowers through the summer.

3. ARGYROCOMA? Mich.

A. cæspitosa, procumbens; foliis linearibus, acutissimis; stipulis binis, internodiis longioribus; calycibus acuminatis, apice barbatis.

Cæspitose, procumbent; leaves linear, acute; stipules 2, longer than the joints; leaves of the calyx acuminate, bearded at the summit.

Mich. 1. p. 113.
Achyranthes dichotoma, Sp. pl. 1. p. 1196.

Root perennial, fusiform. *Stems* assurgent, jointed, terete, glabrous towards the summit, dichotomous, much branched. *Leaves* opposite, linear, acute, slightly hairy. *Stipules* generally 2 at the branches, frequently 4, as long, or longer than the joints, giving the young shoots the silvery appearance from which Michaux has derived his name. *Flowers*, as in the preceding species, but the clusters more distinct. Appendages behind the summits of the *calyx* acuminate.

Grows in rocky places, among the mountains of Carolina, Mich. For my specimens I am indebted to Mr. Nuttall, who collected them at Harper's Ferry, Virginia.

Flowers

This genus will probably be enlarged when our plants are well examined. The northern A. Canadensis appears to me to differ much from the southern plant, and Mr. Nuttall has lately informed me that he has found in Tennessee a species agreeing more minutely with Michaux's argyrocoma than the one above described.

ACHYRANTHES. Gen. pl. 404.

Calyx duplex, membranaceus, persistens; exterior 3-phyllus, interior 5-phyllus, inæqualis. *Stamina* nectario insidentia, lacinia interposita. *Semen* 1.	*Calyx* double, membranaceous, persistent; exterior 3 leaved, interior 5 leaved, unequal. *Stamens* sitting on the nectary, with a segment between them. *Seed* 1.

1. Repens.

A. caulibus prostratis, hirsutis; foliis oppositis, lanceolatis, petiolatis; capitulis sessilibus, ovatis, alternatim axillaribus. E.	Stem prostrate, hairy; leaves opposite, lanceolate, petiolate; heads sessile, ovate, alternately axillary.

Gomphrena polygonoides, Linn.
Illecebrum achyrantha, Walt. p. 103.
Illecebrum polygonoides, Willd Sp. pl. 1. p. 1208.
——— ——— Mich. 2. p. 34. Pursh, 2. p. 445.
Achyranthes polygonoides, La Marck, Ency. Meth. under the word Cadelar.

Plant perennial, creeping. *Stem* very hairy, villous at the joints. *Leaves* slightly sprinkled with hairs on the under surface, opposite, one leaf generally larger than the other. The *flowers* by pressure in the heads acquire a 3 angled form. Exterior *calyx* 3 leaved, leaves very acute, somewhat rigid, equal; interior *calyx* 5 leaved, the 3 exterior ovate, lanceolate, very acute, rigid, hairy near the base, equal, longer than the exterior calyx: the 2 interior shorter, very hairy even at the summit, hairs long, glandular, capitate. *Nectary* surrounding the base of the germ, persistent, bearing the stamens: the segments between the stamens subulate, simple, acute, as long as the filaments. *Filaments* short. *Anthers* incumbent, oval. *Germ* superior, nearly globose. *Style* very short. *Stigma* obtuse, slightly glandular. *Capsule* 1 celled, not opening. *Seed* 1, round, compressed.

This humble and common plant appears to have been negligently examined; it accords nearly with the genus Achyranthes as understood by La Marck, excepting that by its interior calyx (or corolla) it is nearly allied to Gomphrena, and that the intermediate segments of the nectary are simple, not divided at the summit; neither is the nectary caducous, as described by Schreber.

Grows in dry soils, along walls, fences and the edges of roads, streets, &c. in places much trodden. Common in the maritime districts of Carolina and Georgia.

Flowers March—October. *Forty knot.*

The decoction of the whole plant sensibly increases the urinary discharge. In domestic practice it is usual to give it warm, *ad libitum*, to patients labouring under Ischury and Dysury. The remedy is generally successful.

2. FICOIDEA.

A? caulibus repentibus, glabris; foliis lato-lanceolatis, petiolatis; capitulis orbiculatis, pubescentibus. Willd.	Stems creeping, glabrous; leaves broad lanceolate, petiolate; heads spherical, pubescent.

Persoon, 1. p. 259.
Illecebrum ficoideum, Sp. pl. 1. p. 1208. Pursh, 2. p. 445.

Grows along the sea coast from Carolina to Florida. Pursh.
Flowers July—August.

3. VERMICULARIS.

A? glabra; caulibus repentibus; foliis subteretibus, carnosis; capitulis solitariis, oblongis, terminalibus.	Glabrous; stem creeping; leaves nearly terete, fleshy; heads solitary, oblong, terminal.

Gomphrena vermicularis, Sp. pl. 1. p. 1322.
Illecebrum vermiculatum, Pursh, 2. p. 446.

I have had no opportunity of examining the two last species, I have therefore placed them here with some hesitation. If they agree in character with the first, they will probably constitute an intermediate genus between Achyranthes and Gomphrena. The last species, however, from its solitary terminal heads, appears to be closely allied to Gomphrena.

Grows along the sea coast from Carolina to Florida. Pursh.
Flowers June—August.

THESIUM. GEN. PL. 410.

Calyx 1-phyllus, cui stamina inserta. *Nux*	*Calyx* 1 leaved, in which the stamens are

infera, mono-sperma, calyce persistente tecta	inserted. *Nut* inferior, 1 seeded, covered with the persistent calyx.

1. UMBELLATUM.

T. floribus umbellatis, axillaribus; foliis oblongis. Sp. pl. 1. p. 1214.	Flowers in axillary umbels; leaves oblong.

T. corymbulosum, Mich. 1. p. 112.

Root perennial. *Stem* smooth, branching near the summit. *Leaves* oblong, lanceolate, entire, glabrous, sessile. *Umbels* 3--5 flowered, axillary; common peduncles longer than the leaves; pedicels 2—3 lines long. *Involucrum* 4 leaved, leaves small, lanceolate. *Calyx* 1 leaved, conical, with the upper half coloured and 5 cleft. *Corolla* 0. *Stamens* shorter than the calyx.

Very common in dry soils in the upper country. Dr. Macbride.
Sent to me from Athens, Georgia, by Mr. Green.
Flowers

GELSEMINUM. Juss.

Calyx 5-phyllus. *Corolla* infundibuliformis. *Capsula* compresso-plana, 2-partibilis, 2-locularis. *Semina* plana, valvularum marginibus adnexa.	*Calyx* 5 leaved. *Corolla* funnel shaped. *Capsule* compressed, divisible, 2 celled. *Seeds* flat, attached to the margins of the valves.

1. SEMPERVIRENS.

G. nitidum, Mich. 1. p. 120. Pursh, 1. p. 184.
Bignonia sempervirens, Sp. pl. 3. p. 291.
Anon. sempervirens, Walt. p. 99.
Gelseminum, Catesby Car. 1. p. 53 t. 53.

Perennial. *Stem* twining, smooth, glabrous. *Leaves* opposite, perennial, lanceolate, entire, slightly acuminate, of a dark shining green colour on the upper surface, paler on the under, 1—2 inches long, 3—8 lines wide; petioles short. *Flowers* (1—5) in axillary clusters; pedicel ½ an inch long, clothed with small scales. Leaves of the *calyx* lanceolate, equal, glabrous, with the margins slightly membranaceous. *Corolla* yellow; border obscurely 5 lobed, lobes round and equal. *Filaments* half as long as the corolla, inserted into its base. *Anthers* erect, sagittate, 2 celled. *Germ* superior, oblong, furrowed, tapering into the style. *Style* as long as the tube of the corolla, with the summit 4 cleft, (dichotomous). *Stigmas* simple, recurved.

This beautiful plant flourishes in almost every soil in the maritime districts of Carolina and Georgia, though it prefers moist and rich lands. It abounds along the roads, covering the shrubbery with its rich foliage and flowers, and perfuming the air with its delightful fragrance.

Flowers February—March; sometimes October—November.

Yellow Jessamine.

The flowers, root, &c. of this shrub are narcotic. A spirituous tincture of the root has been used successfully in Rheumatism. The effluvia of the flowers are said sometimes to induce stupor.

ECHITES. Gen. pl. 421.

Folliculi duo, distincti, teretes. *Semina* papposa. *Corolla* infundibuliformis, limbo 5-partito. *Antheræ* medio stigmati cohærentes. *Squamæ* 5, carnosæ, hypogynæ.	*Follicles* two, distinct, terete. *Seed* crowned with a pappus. *Corolla* funnel shaped, with the border 5 parted. *Anthers* adhering in the middle to the stigma. *Scales* 5, fleshy, surrounding the base of the germ.
* *Laciniis corollæ æquilateris. (Parsonsia. Brown Trans. Wern. Soc.* 1. p. 64.)	* *Segments of the corolla equal sided.*

1. Difformis. Walt.

E. caule volubili; foliis infimis sublinearibus, superioribus ovali-lanceolatis, acuminatis; racemis corymbosis; staminibus inclusis. E.	Stem climbing; the lowest leaves nearly linear, the upper oval lanceolate, acuminate; raceme corymbose; stamens included.

Echites difformis, Walt. p. 99. Pursh, 1. p. 178.
E. puberula, Mich. 1. p. 120.

A plant perennial, twining over small shrubs. *Leaves* opposite, pubescent on the under surface. *Flowers* small, pale yellow, in three parted corymbs; corymbs axillary or between the petioles. *Calyx* 5 parted; segments very acute. *Corolla* funnel shaped; the throat naked, but marked with 5 furrows; the border 5 cleft, with segments ovate, contracted at the base, equilateral. *Filaments* inserted into the base of the corolla, and scarcely more than half its length. *Anthers* sagittate, the base or auricles destitute of pollen, adhering in the middle to the stigma. *Germs* 2, uniting at the summit into one style nearly as long as the stamens. Five thick, obtuse, fleshy, dark coloured bodies surround the base of the germs. *Follicles* long, straight, slender.

Grows in damp, rich soils, in high river swamps, not rare.

Flowers May—August.

Since the Catalogue of Genera prefixed to this class was printed I have seen Brown's admirable view of the natural orders of the Asclepiadeæ and Apocyneæ, in the transactions of the Wernerian Society of Edinburgh. This plant, the Echites of preceding authors, certainly, from its corolla, belongs to the Parsonsia of Brown, although, by its included stamens, it varies from one character of that genus.

AMSONIA. Walt.

Folliculi duo, erecti. *Corolla* infundibuliformis, fauce clausa. *Semina* teretia, nuda, apicibus oblique-truncatis.

Follicles two, erect. *Corolla* funnel shaped, with the throat closed. *Seeds* terete, naked, with the summit obliquely truncate.

1. Latifolia.

A. caule glabriusculo; foliis ovali-lanceolatis, superioribus promisse acuminatis, subtus ad nervos pubescentibus. Pursh, 1. p. 184.

Stem glabrous; leaves oval lanceolate, the upper conspicuously acuminate, pubescent on the under surface along the nerves.

Mich. 1. p. 121.
Amsonia Tabernæmontana, Walt. p. 98.
Tabernæmontana amsonia, Sp. pl. 1. p. 1246.

Root perennial. *Stem* herbaceous, about 2 feet high, glabrous. *Leaves* alternate, on very short footstalks, slightly glaucous underneath. *Flowers* in terminal, corymbose panicles, pale blue. *Follicles* long, slender, cylindrical. *Seeds* without any terminal tuft of hair, nearly black.

Grows in damp soils. Very common in the middle country of Carolina and Georgia.

Flowers April—May.

2. Salicifolia.

A. caule lævigato; foliis lineari-lanceolatis, u-

Stem smooth; leaves linear lanceolate, acute trinque acutis, glaberrimis. Pursh, 1. p. 184.

at each end, very glabrous.

Flowers in terminal corymbs, very numerous, blue.
Found in Carolina and Georgia, by Mr. Lyon.
Flowers May—June.

3. ANGUSTIFOLIA. Mich.

A. caule pubescente; foliis angusto-linearibus, crebris, erectis, pubescentibus. Mich. 1. p. 121.

Stem pubescent; leaves narrow, linear, numerous, erect, pubescent.

Pursh, 1. p. 184.
A. ciliata, Walt. p. 98.

Similar in size and habit to the first species, but more disposed to branch near the summit. *Leaves* on the stem linear lanceolate, on the branches linear and crowded, all hairy and ciliate. *Flowers* blue.

Walter describes his A. ciliata as having tawny flowers. If this has not arisen from some typographical error, the variety he describes has not recently been seen.

Grows in the middle districts of Carolina and Georgia; rare in the lower.

Flowers April--May.

DIGYNIA.

APOCYNUM.

Folliculi 2, longi, lineares. *Semina* papposa. *Corolla* campanulata. *Antheræ* medio cum stigmate cohærentes.

Follicles 2, long, linear. *Seed* bearing a pappus. *Corolla* campanulate. *Anthers* adhering in the middle to the stigma.

1. ANDROSÆMIFOLIUM.

A. foliis ovatis, glabris; cymis terminalibus, late-

Leaves ovate, glabrous; cymes terminal and latralibusque ; tubo corollæ calycem superante. Brown, Trans. Wern. Soc. 1. p. 67.

ral ; tube of the corolla longer than the calyx.

Sp. pl. 1. p. 1259. Mich. 1. p. 121. Pursh, 1. p. 179.

Root perennial. *Stem* herbaceous, erect, 2--3 feet high. *Leaves* opposite, ovate, or oval lanceolate, mucronate, somewhat glaucous underneath. *Corolla* monopetalous, 5 cleft, white tinged with red. *Nectary*, 5 oval glands surrounding the germ, purple, viscid. *Anthers* scarcely half as long as the corolla

Grows along the margins of fields and woods, from Canada to Carolina. Pursh.

Flowers June- July.

2. CANNABINUM.

A. foliis lanceolatis, utrinque acutis, glabris ; cymis paniculatis ; calyce tubum corollæ æquante. Brown, Trans. Wern. Soc. 1. p. 68.

Leaves lanceolate, acute at each end, glabrous ; cymes paniculate ; calyx as long as the tube of the corolla.

Sp. pl. 1. p. 1259? Walt. p. 107.

Stem herbaceous, 2—3 feet high. *Cymes* lateral, longer than the leaf. *Flowers* greenish white.

Grows in Carolina. Of its habitat however I am uncertain, as this, and the succeeding species have hitherto been confounded. The Synonymes in Willdenow evidently refer to both species.

Flowers

3. PUBESCENS. Brown.

A foliis ovato-oblongis, mucronatis, basi obtusis, utrinque cymaque breviore pubescentibus ; calyce corollam subæquante. Brown, Trans. Wern. Soc. 1. p. 68.

Leaves ovate oblong, mucronate, obtuse at base, on both sides and with the shorter cyme, pubescent ; calyx nearly as long as the corolla.

Flor. Virg. (Ed. prior), p. 68.

A. cannabinum, Mich. 1. p. 121. Pursh, 1. p. 179.

Stem herbaceous, 2—3 feet high. *Leaves* almost tomentose on the under surface. *Cymes* terminal. *Flowers* greenish.

This is our most common species of Apocynum. Grows in pastures, fields, &c. but not very abundantly. Columbia; Mr. Herbemont.

Flowers May—June.

LYONIA. E.

Massæ pollinis 10, læves, pendulæ. *Corona staminea* 5-phylla, foliolis planis, erectis. *Stigma* conicum, bifidum. *Corolla* monopetala, campanulata. *Folliculi* læves.

Pollen masses 10, smooth, pendulous. *Stamineal crown* 5 leaved, the leaves flat, erect. *Stigma* conical, 2 cleft. *Corolla* 1 petalled, campanulate. *Follicles* smooth.

1. MARITIMA.

Cynanchum angustifolium, Muhl. Cat.
Ceropegia palustris, Pursh, 1. p. 184.

Perennial. *Stem* herbaceous, branching, glabrous, climbing over rushes and small marine plants. *Leaves* opposite, sessile, linear, channelled, somewhat succulent, about an inch long. *Umbels* solitary, axillary (or rather growing between the leaves), 9—10 flowered. *Calyx* small, 5 parted; segments acute, erect. *Corolla* 5 parted; segments lanceolate, very acute, glabrous, greenish, with the summits slightly reflected. Leaves of the *stamineal crown* oval, obtuse, white, longer than the stigma, scarcely half as long as the corolla. *Corpuscle* conical, slightly furrowed, and cloven at the summit. *Stamens, styles, follicles* and *seed* as in the Asclepias. *Follicles* very slender.

Nearly allied to the Diplolepis of Brown. To the Ceropegia of that author or even of Linnæus, it seems to have but little affinity.

Grows in land occasionally overflowed by salt water.

Flowers June—October.

I have named this plant in honor of Mr. John Lyon, whose indefatigable and successful researches after the plants of the United States, merit this notice from American botanists.

ACERATES.

Massæ pollinis 10, læves, pendulæ. *Corona staminea* 5-phylla; foliolis concavis, brevibus, angulis

Pollen masses 10, smooth, pendulous. *Stamineal crown* 5 leaved; leaves concave short, appres-

filamentorum appressis. *Corolla* reflexa. *Folliculi* læves.

sed to the angles of the filaments *Corolla* reflected. *Follicles* smooth.

1. LONGIFOLIA.

A. caule decumbente; foliis alternis, linearibus; umbellis lateralibus, erectis; corona brevissima.

Stem decumbent; leaves alternate, linear; umbels lateral, erect; crown very short.

Asclepias longifolia, Mich. 1. p. 116. Pursh, 1. p. 183.
A. incarnata, Walt. p. 106.

Perennial. *Stem* 18—24 inches high, decumbent and erect, pubescent. *Leaves* alternate, somewhat crowded, linear lanceolate, sessile, pubescent particularly along the margins and midrib, 4—6 inches long, 3—4 lines wide. *Umbels* near the summit generally verticillate, 2—4 from each joint; pedicels and peduncles about an inch long, pubescent, with a small leaf at the base of each peduncle. *Calyx* very small, 5 parted, erect. *Corolla* 3 or 4 times as long as the calyx, 5 parted, reflected, cinereous, tipped with purple. Leaves of the *crown* closely embracing the angles of the corpuscle around its base, purple. *Horn* 0. *Stamens*, *styles*, *stigma* and *fruit*, as in the Asclepias.

The Asclepias viridiflora of Pursh appears to belong to this genus. It is perhaps doubtful whether the absence of the horn-like appendages constitutes a sufficient character to establish this genus. I should certainly have been better satisfied with it had it separated the species of Asclepias with alternate, from those with opposite leaves.

Grows in wet pine barrens.

Flowers May—July.

ASCLEPIAS.

Massæ pollinis 10, læves, pendulæ. *Corona staminea* simplex, 5-phylla; foliolis cucullatis, e fundo exserentibus processum aversum, corniformem. *Corolla* reflexa. *Folliculi* læves. Brown.

Pollen masses 10, smooth, pendulous. *Stamineal crown* simple, 5 leaved; leaves cowled, bearing from the bottom an averted, horn shaped process. *Corolla* reflected. *Follicles* smooth.

* *Foliis oppositis seu verticillatis.*

* *Leaves opposite or verticillate.*

1. VARIEGATA.

A. foliis ovali-lanceolatis, petiolatis, undulatis, sub-

Leaves oval lanceolate, petiolate, undulate, some-

tus glaucescentibus; umbellis terminalibus; pedunculis pedicellisque pubescentibus. E.

what glaucous underneath; umbels terminal; peduncles and pedicels pubescent.

Sp. pl. 1. p. 1265. Walt. p. 104. Pursh, 1. p. 181.
A. hybrida, Mich. 1. p. 115.

Root perennial. *Stem* herbaceous, simple, erect, 2—2½ feet high, terete, with two pubescent lines, dark purple. *Leaves* slightly acuminate, strongly veined, with the veins and margins pubescent; petioles half an inch long, pubescent. *Umbels* 1—6, naked, at the summit of the stem; peduncles and pedicels about an inch long, with a small, setaceous, caducous leaf at the base of each pedicel. *Calyx* small, 5 parted; segments subulate, hairy, green, reflexed. *Corolla* 5 parted; segments broad, lanceolate, glabrous, 3—4 times as long as the calyx, green on the outer surface, white on the inner. *Nectary* or *stamineal crown* composed of 5, fleshy, obtuse, white leaves shorter than the petals; leaves involute, slightly impressed on the back, bearing from the hollow centre a small horn, acute, incurved. *Filaments?* 5, sessile, cohering, with the membranous margins reflected, and the summit also membranous, inflected, containing a cell or sack at each interior angle, purple at base, and white at the summit. *Pollen masses* 10, yellow, solid, transparent, 3 jointed, pendulous, the lower joint? punctate, attached to a pentangular, central corpuscle, 2 at each angle, and hanging in the cells of the filaments: the 2 masses at each angle are not inserted into the 2 cells of one, but into the approximating cells of adjoining filaments. *Germs* 2, small, conic, united at base, covered by the corpuscle to which the pollen masses are attached. *Styles* short. *Stigmas* simple, obtuse. *Follicle* lanceolate, smooth, opening at one side. *Seeds* flat, orbicular, slightly winged, attached to a loose, central receptacle, and crowned at the summit with a long tuft of silky hair.

The essential parts of this description will apply to all of the plants that really belong to the genus Asclepias. The species vary in the colour, figure, and proportional size of the corolla, stamineal crown, horn and corpuscle, and from these the best specific characters will perhaps be ultimately derived; at present the leaves supply more obvious and sufficient characters.

Physiological Botanists still differ as to the uses, functions, and even names of the parts of the flower in the complex structure of this natural order of plants; even the place which the Asclepiadeæ ought to occupy in the artificial system of Linnæus has been a subject of controversy. But their connection with the Apocyneæ, most of which are manifestly pentandrous, seems to require their location in this class.

All the species of Asclepias are ornamental, and the pappus has been applied to purposes of domestic œconomy. For ornament this species, the A. obtusifolia, laurifolia, paupercula and parviflora merit particular attention; while the A. amplexicaulis seems to produce the most seed, and consequently will be most valuable if ever it should become an object to apply its silky down to purposes of domestic utility.

Grows in rich, dry soils.

Flowers April—June.

2. PHYTOLACCOIDES. Lyon.

A. caule erecto, simplici; foliis lato-lanceolatis, subacuminatis, glabris; umbellis lateralibus, solitariis, longe pedunculatis, nutantibus.	Stem erect, simple; leaves broad lanceolate, slightly acuminate, glabrous; umbels lateral, solitary, on long peduncles, nodding.

Pursh, 1. p. 180.

A. exaltata? Muhl. Cat.

Stem 3 – 5 feet high. *Leaves* large, oblong, on short footstalks, sometimes acute, more frequently with a slight acumination, pale on the under surface. *Umbels* solitary at each of the upper joints. *Flowers* large (sweet scented, Pursh); petals dark purple.

Grows in the mountains of Carolina. Extends to New-England. I have a specimen from Pendleton county, which appears to belong to this species, but the leaves are pubescent, almost tomentose on the under surface.

Flowers July—August.

3. QUADRIFOLIA. Muhl. Cat.

A. foliis quaternis, ovato-lanceolatis, paulo acuminatis, membranaceis, glabris; umbellis terminalibus axillaribusque. E.	Leaves by fours, ovate lanceolate, slightly acuminate, membranaceous, glabrous; umbels terminal and axillary.

Pursh, 1. p. 188.

Perennial. *Stem* erect, 2—3 feet high, slender, pubescent towards the summit, the pubescence in lines. *Leaves* commonly by fours, the upper ones opposite, somewhat glaucous underneath, sprinkled with hairs along the veins and margins, very thin and delicate in their texture. *Flowers* small. Leaves of the *crown* much longer than the corpuscle.

From specimens collected by Dr. Macbride, in the mountain vallies of Carolina.

Flowers June—August.

4. CONNIVENS. Baldwin.

A. foliis oblongo-ovalibus, mucronatis, parce pilosis, sessilibus; coronæ foliolis prælongis, arcuatis, conniventibus. B.	Leaves oblong oval, mucronate, slightly hairy, sessile; leaves of the crown unusually long, incurved, connivent at the summit.

Stem erect, 1—2 feet high, cylindrical, more firm in its appearance than is usual in this genus, terete, glabrous, when very young pubescent. *Leaves* sessile, obtuse at base, oblong, sprinkled with hair. *Umbels* 1—4, few flowered? *Flowers* perhaps larger than in any other of our species. Leaves of the *crown* twice or three times as long as the corpuscle, bent like a bow, with their points meeting over the summit of the corpuscle; horns shorter than the crown.

Grows in damp pine barrens near St. Mary's. B.

Flowers June.

5. INCARNATA.

A. caule erecto, ramoso, tomentoso; foliis lanceolatis, sub-tomentosis; umbellis plerumque geminis; corniculis exertis.	Stem erect, branching, tomentose; leaves lanceolate, somewhat tomentose; umbels generally by pairs; horns exserted.

Sp. pl. 1. p. 1267. Mich. 1. p. 115? Pursh, 1. p. 181.
A. polystachia? Walt. p. 107.

Root perennial. *Stem* 4—5 feet high, terete, the young branches very pubescent. *Leaves* long, lanceolate, sometimes acuminate, pubescent along the veins and margins. *Umbels* generally by pairs, opposite; peduncles and pedicels pubescent. *Corolla* bright purple. Leaves of the *crown* not longer than the corpuscle. *Horns* exserted.

Grows very abundantly in the vallies among the mountains.

Flowers June--August.

6. TOMENTOSA. E.

A. foliis ovali-lanceolatis, acutis, tomentosis; umbellis sessilibus, corniculis exertis. E.	Leaves oval lanceolate, acute, tomentose; umbels sessile, with the horns exserted.

Stem erect, 1--2 feet high, when young very tomentose. *Leaves* oblong, slightly acuminate, very tomentose on the under surface, less so on the upper. In my specimens there is but one terminal sessile umbel. Leaves of the *stamineal crown* shorter than the corpuscle, truncate ; *horns* longer than the corpuscle.

From specimens collected, I believe, by Dr. Baldwin near St. Mary's, Georgia.

Flowers

7. OBOVATA. E.

A. foliis obovatis, obtusis, mucronatis, subtus tomentosis ; umbellis subsessilibus, terminalibus axillaribusque. E.	Leaves obovate, obtuse, mucronate, tomentose on the under surface ; umbels nearly sessile, terminal and axillary.

Stem erect, 2--3 feet high, terete, tomentose. *Leaves* nearly sessile, the lower ones obovate, very obtuse, mucronate, the upper, when small, lanceolate, the upper surface thinly sprinkled with hairs, the lower tomentose. *Umbels* nearly sessile. Leaves of the *crown* twice as long as the corpuscle.

The colour of the flower I cannot determine from my specimens. This plant has much resemblance to the A. viridiflora of Pursh, but differs in the length of its stamineal crown, and in its pubescence, which is not so soft as in that species. My specimens have been so much injured that I cannot now determine whether it possesses the horn-like appendages belonging to this genus. I insert it here until it can be further examined.

Sent from Louisville, Georgia, by Mr. Jackson.

8. OBTUSIFOLIA. Mich.

A. foliis arcte sessilibus, cordato-ovatis, obtusis, undulatis, glaberrimis, subtus glaucescentibus ; umbellis plerumque solitariis. E.	Leaves closely sessile, cordate ovate, obtuse, undulate, very glabrous, glaucous underneath ; umbels commonly solitary.

Mich. 1. p. 115. Pursh, 1. p. 182.
A. purpurascens, Walt. p. 105.

Perennial. *Stem* herbaceous, erect, 2--3 feet high, purple. *Leaves* frequently emarginate. *Umbels* sometimes 2--3 ; peduncles long, naked, with pubescent lines. *Corolla* large, purple and green, with the margins nearly white. Leaves of the *stamineal crown* dentate at the summit, purple, longer than the corpuscle ; *horns* longer than the crown ; *corpuscle* green at base, white at the summit. *Follicles* large, sprinkled with fine down.

Grows in dry soils.

Flowers May—July.

9. AMPLEXICAULIS. Mich.

A. glaberrima; caule decumbente; foliis sessilibus, cordatis, venosis, glaucis, appressis; umbellis terminalibus axillaribusque. E.	Very glabrous; stems decumbent; leaves sessile, cordate, strongly veined, glaucous, appressed; umbels terminal and axillary.

Mich. 1. p. 115. Pursh, 1. p. 182.
A. humistrata, Walt. p. 105.

Root perennial. *Stem* 1—2 feet long, terete, generally decumbent, as if too weak to support its thick, succulent leaves. *Leaves* large, veins prominent, purple. *Corolla* cinereous. Leaves of the *crown* truncate, scarcely longer than the corpuscle, white; *horns* longer ? than the crown; *corpuscle* purple at base, white at the summit. *Follicles* smooth.

All of the species of this genus exude, when broken, a milk-like sap; this more abundantly than any other.

Grows in the driest and most sandy soils.

Flowers April—July.

10. PURPURASCENS.

A. caule simplici; foliis ovatis, subtus villosis; umbellis erectis; nectariis resupinatis? Sp. pl. 1. p. 1265.	Stem simple; leaves ovate, villous on the under surface; umbels erect; nectaries resupine?

Pursh, 1. p. 181.

Stem 2 feet high. *Leaves* nearly sessile, oblong, mucronate, slightly cordate. *Umbel* terminal, erect. *Corolla* bright purple. *Nectary* in my specimens erect.

Grows in shady swamps. Virginia—Carolina. Pursh.

The only specimens I have seen of this species were from Connecticut.

11. LAURIFOLIA. Mich.

A foliis subsessilibus, ovatis, superne sensim angustatis, acutissimis, glabris; umbellis pedunculatis, terminalibus axillaribusque. E.	Leaves nearly sessile, ovate, tapering to the summit, very acute, glabrous; umbels on long peduncles, terminal and axillary.

Mich. 1. p. 117. Pursh, 1. p. 182.
A. cordata ? Walt. p. 105.

Perennial. *Stem* 2 feet high, generally erect, near the summit pubescent, lower down marked by a decurrent hairy line. *Leaves* obtuse at base, sessile, but never so much heart-shaped as to have merited Walter's name; the margins somewhat rough and slightly ciliate. *Umbels* few near the summit; common peduncle 2—3 inches long. *Corolla* 3 or 4 times as long as the calyx, green on the outer surface, within bright purple. Leaves of the *crown* acute, as long as the corolla, twice as long as the corpuscle, bright purple, approaching to orange; *horn* rather shorter than the crown. *Corpuscle* brownish green at base, white at the summit.

Grows in the damp pine barrens of the middle country.

Flowers June—July.

12. PAUPERCULA. Mich.

A. foliis lineari-lanceolatis, prælongis, remotis, glabris, marginibus pubescentibus; umbellis paucifloris. E.

Leaves linear lanceolate, very long, remote, glabrous, with the margins pubescent; umbels few flowered.

Mich. 1. p. 118. Pursh, 1. p. 182.

A. lanceolata, Walt. p. 105.

Perennial. *Stem* erect, 3—4 feet high, glabrous, near the summit marked by a decurrent hairy line. *Leaves* sessile, very distant, 6—12 inches long, 4—6 lines wide, acute at each end, with the midrib very prominent, somewhat fleshy, glaucous underneath, the upper part of the stem naked. *Umbels* 1—3, few flowered; peduncles long. *Flowers* very similar to those of the preceding species, but with colours more bright and more strongly tinged with red.

The Asclepias Curassavica, cultivated in our gardens by the name of Possimum (vulgarised from Apocynum, under which genus all the Asclepiadeæ and Apocyneæ were arranged by the old botanists), forms an intermediate species between the A. laurifolia and A. paupercula, having leaves strictly lanceolate, more thin and delicate in their structure than these plants, and flowers more brilliant.

Grows around pine barren ponds, and in damp, sandy soils.

Flowers May—July.

13. PARVIFLORA.

A. foliis lanceolatis, acuminatis, basi attenuatis, membranaceis, glabris; caule suffruticoso; umbellis axillaribus, solitariis. E.

Leaves lanceolate, acuminate, tapering at base, membranaceous, glabrous; stem somewhat shrubby; umbels axillary, solitary.

Sp. pl. 1. p. 1267. Pursh, 1. p. 180.

A. perennis, Walt. p. 107.

A. debilis, Mich. 1. p. 116.

Root perennial. *Stem* 1—2 feet high, decumbent and erect, terete, slightly pubescent, herbaceous in its texture, but not annual as in most of the other species. *Leaves* slightly pubescent, with a silky lustre on the upper surface; petioles 3—4 lines long, scarcely more than the attenuated base of the leaves, pubescent. *Umbels* 4—8, generally solitary, axillary and terminal, many flowered; flowers small. *Corolla* white, 2 or 3 times as long as the corpuscle. Leaves of the *crown* obtuse, very white, scarcely longer than the corpuscle; *horns* as long as the corolla. *Corpuscle* purple at base, white at the summit.

Grows in rich, wet soils, river swamps; common along the Ogeechee.
Flowers May—August.

14. NIVEA.

A. foliis ovato-lanceolatis, glabriusculis; umbellis erectis, lateralibus, solitariis; caule simplici. Sp. pl. 1. p 1266.	Leaves ovate-lanceolate, nearly glabrous; umbels erect, lateral, solitary; stem simple.

Pursh, 1. p. 180.

Grows on the banks of rivers in gravelly soils, from Virginia to Carolina. Pursh.
Flowers July—August.

15. VERTICILLATA.

A. foliis linearibus, revolutis, verticillatis oppositisque; umbellis terminalibus axillaribusque; floribus parvulis; corniculis exertis. E.	Leaves linear, revolute, verticillate and opposite; umbels terminal and axillary; flowers small; horns exserted.

Sp. pl. 1. p. 1272. Walt. p. 106. Mich. 1. p. 116. Pursh, 1. p. 183.

Stem erect, 2—3 feet high, slender. *Leaves* linear, sometimes crowded near the base of the stem, verticillate near the middle, opposite towards the summit, and, with the stem, a little hairy. *Umbels* terminal and axillary, sometimes verticillate, 2—3 or 4 around the upper joints. *Corolla* cinereous. Leaves of the *crown* truncate, half as long as the corpuscle, white; *horns* long, exserted; *corpuscle* green at base, white at the summit.

Grows in rich, light soils.
Flowers May—August.

16. **Cinerea.** Walt.

A. foliis longis, linearibus, oppositis; umbellis paucis, terminalibus, nudis; corniculis brevibus. E.	Leaves long, linear, opposite; umbels few, terminal, naked; horns short.

Walt. p. 105.

Stem erect, slender, 2—3 feet high. *Leaves* linear, 3—4 inches long, glabrous, opposite; the upper part of the stem naked, or with very minute leaves. *Umbels* 2—3, near the summit. *Flowers* few in each umbel, large for the delicate structure of the plant; the general colour of the flower is cinereous, but it derives singular beauty from the fine tints and shading, with which nature has enriched its sombre hue. Leaves of the *crown* truncate, shorter than the corpuscle, with the *horns* slightly projecting.

Grows in damp pine barrens, in the middle country. Screven county, Georgia.

Flowers June—July.

** *Foliis alternis.*	** *Leaves alternate.*

17, **Angustifolia.** E.

A. foliis sparsis, lanceolato-linearibus, parce pubescentibus; umbella solitaria, terminali; corniculis inclusis. E.	Leaves scattered, strap shaped, slightly pubescent; umbel solitary, terminal; horns included.

A. tuberosa? Walt. p. 106.

Perennial. *Stem* 8—18 inches high, terete, pubescent. *Leaves* exactly strap shaped, 3—4 inches long, 2—3 lines wide, acute at each end. *Flowers* in a small, terminal umbel. *Corolla* greenish or cinereous. Leaves of the *crown* nearly orange coloured, longer than the corpuscle; *horns* included.

Grows in wet pine barrens, two miles from Purysburgh, on the road to Coosawhatchie.

Flowers May—June.

18. **Tuberosa.**

A. hirsuta; foliis oblongo-lanceolatis, alternis, subconfertis; caule	Hirsute; leaves oblong lanceolate, alternate, somewhat crowd-

fruticoso, ramoso; umbellis corymbosis. E.	ed; stem frutescent, branching; umbels corymbose.

Sp. pl. 1. p. 1273. Mich, 1. p. 117. Pursh, 1. p. 183.
A. decumbens, Walt. p. 106.

Root tuberous, perennial. *Stem* erect, and decumbent, hirsute, perennial, branching near the summit, with the branches expanding. *Leaves* sometimes much crowded, sessile, or with petioles, obtuse at base, slightly undulate and revolute. *Umbels* erect, and from the the curvature of the expanding branches frequently forming a large corymb. *Corolla* and *crown* bright orange coloured; *corpuscle* tinged with green; leaves of the *crown* twice as long as the corpuscle.

I possess a variety of this plant collected by the late Robert Porteous, Esq. of Beaufort, in which the leaves are uniformly opposite; in all other respects it agrees minutely with the common species.

Grows in dry, sandy soils.

Flowers May—September. *Pleurisy root. Butterfly weed.*

Notwithstanding the celebrity of the root of this plant as a remedy for pleurisies, it can only be considered as an auxiliary. A decoction, taken warm, promotes perspiration and acts very slightly on the bowels and urinary discharge.

PODOSTIGMA. E.

Corpusculum pedicellatum. *Massæ pollinis* 10, læves, pendulæ. *Corona staminea* 5-phylla; foliolis compressis. *Corolla* campanulata. *Folliculi* læves.	*Corpuscle* on a pedicel. *Pollen masses* 10, smooth, pendulous. *Stamineal crown* 5 leaved; the leaves compressed. *Corolla* campanulate. *Follicles* smooth.

1. PUBESCENS.

P. caule erecto; foliis linearibus; umbellis terminalibus axillaribusque; corpusculo pedicellato. E.	Stem erect; leaves linear; umbels terminal and axillary; corpuscle on a pedicel.

Asclepias pedicellata, Walt. p. 106. Pursh, 1. p. 182.

Perennial. *Stem* erect, 12—18 inches high, terete, pubescent. *Leaves* 1—2 inches long, 2 lines wide, acute at each end. *Umbels* on short peduncles, few flowered. *Flowers* rather large. *Corolla* oblong, erect, yellowish green. Leaves of the *crown* about one third as long as the corolla, somewhat expanded between the segments of the corolla, compressed, and hooded ? attached at base and ascending the pedicel ; *corpuscle* angular, supported by a pedicel nearly as long as the corolla. *Germs* 2.

On dissecting this plant, I first noticed a fibre or chord extending through the centre of the corpuscular pedicel and communicating from the anthers to the germ. Dr. Macbride has since seen it in some species of the Asclepias.

This genus is closely allied to the Calotropis. Brown.

Found by me, many years ago, in dry pine barrens in Effingham county, Georgia ; near St. Mary's, by Dr. Baldwin ; eight miles from Charleston, by Mr. Fraser.

Flowers May.

2. Viridis.

P ? caule erecto ; foliis oblongis, obtusis, petiolatis ; umbellis subterminalibus. Walt.	Stem erect ; leaves oblong, obtuse, petiolate ; umbels generally terminal.

Asclepias viridis, Walt. p. 107.

Leaves smooth. *Umbels* few. *Petals* large, erect, green. Leaves of the *crown* entire, expanding, short, purple ; *corpuscle* dark brown at base, white at the summit. Walt.

I am only acquainted with this plant by the description of Walter. It probably belongs to this genus. I was informed by the late R. Squibb, that it was found by him on the plantation of Mr. Lowndes, at Ashepoo, and sent to Walter.

Flowers May—

GONOLOBUS. Mich.

Massæ pollinis 10, læves, transversæ. *Corolla* rotata. *Corona staminea* erecta, corpusculum cingens, 5-loba ; lobis 3-dentatis.	*Pollen masses* 10, smooth, transverse. *Corolla* rotate. *Stamineal crown* erect, surrounding the corpuscle, 5 lobed ; the lobes 3 toothed.

1. Macrophyllus. Mich.

G. foliis lato-cordatis, sinu clauso, abrupte acu-	Leaves broad, cordate, with the sinus closed, ab-

minatis; folliculis muricatis; lobis coronæ divisis. E.	ruptly acuminate; follicles muricate; lobes of the crown divided.

Mich. 1. p. 119? Pursh, 1. p. 176?
Vincetoxicum acanthocarpos, Walt. p. 104.

Stem twining, climbing over small shrubs. *Leaves* large, opposite, with the whole plant pubescent. *Flowers* in axillary umbels. *Corolla* 5 parted, of an obscure yellow colour; lobes oblong, obtuse. *Crown* rather longer than the corpuscle; the 2 lateral teeth of each lobe small, linear, the intermediate larger. *Stigma* depressed, so that the pollen masses extend horizontally.

Small as this genus is, I have arranged the species with much hesitation, and made the references with uncertainty. I have found, (my observations however have been desultory), this species, distinguished by its large and rounded leaves, always bearing hispid fruit; and on a label accompanying a specimen of this plant from Dr. Baldwin, he has written "fruit hispid." Yet Michaux describes his G. macrophyllus as having follicles "costato-angulatis;" and Walter ascribes to his V. gonocarpos the leaves that apparently belong to this species. Perhaps some intermediate species are yet to be made known.

Grows in light soils.
Flowers June—August.

The root of this species, and probably of the others, acts on the bowels in a manner similar to colocynth.

2. CAROLINENSIS?

G. foliis oblongo-cordatis, subauriculatis, sinu aperto, acuminatis; folliculis costato angulatis; lobis coronæ coalitis. E.	Leaves oblong cordate, slightly auriculate, with the sinus open, acuminate; follicles ribbed and angled; lobes of the crown united.

G. hirsutus, Mich. 1. p. 119. Pursh, 1. p. 179.
Cynanchum Carolinense? Sp. pl. 1. p. 1256.
Vincetoxicum gonocarpos, Walt. p. 104.

Stem twining, with the whole plant pubescent. *Leaves* oblong, slightly acuminate. *Umbels* axillary. *Corolla* dark purple, the segments long, elliptic, obtuse. *Crown* rather longer than the corpuscle, so united as only to exhibit a margin where 2 minute teeth alternate with a larger one.

Grows among shrubbery; sometimes found in close, clayey soils.
Flowers May—August.

3. OBLIQUUS.

G. caule twining, hirto; foliis ovato-cordatis, acu-	Stem twining, hirsute; leaves ovate cordate, a-

tis; corymbis axillaribus; laciniis corollæ ovatis, acuminatis.	cute; corymbs axillary; segments of the corolla ovate, acuminate.

Cynanchum obliquum, Sp. pl. 1. p. 1256.

Grows in Carolina. Willd. This, if really a native of this country, has not recently been seen.

4. **Prostratus?**

G. caule prostrato, herbaceo; foliis reniformi-cordatis, acutis, subtus tomentosis.	Stem prostrate, herbaceous; leaves reniform cordate, acute, tomentose underneath.

Cynanchum prostratum, Sp. pl. 1. p. 1257.

Stem dividing near the base into many divaricate branches, 6—12 inches long, hairy. Lower *leaves* often reniform; the upper cordate, generally acute; all slightly hairy on both sides, and ciliate. *Umbels* axillary, 3 flowered. *Flowers* small, purplish. *Petals* ovate, obtuse. *Follicles* oval, smooth. Baldwin.

This plant was first found, without flower or fruit, by Mr. Lyon, on the sand hills near Fort Barrington on the Alatamaha. It has since been seen in a mature state, and carefully described by Dr. Baldwin.

CHENOPODIUM. Gen. pl. 435.

Calyx 5-phyllus, 5-gonus. *Corolla* 0. *Semen* 1, lenticulare, superum.	*Calyx* 5 leaved, 5 angled. *Corolla* 0. *Seed* 1, lenticular, superior.

1. **Murale.**

C. foliis ovatis, inæqualiter dentatis, acutis, nitidis; racemis corymbosis, nudis; caule ramoso, patulo. Sp. pl. 1. p. 1301.	Leaves ovate, unequally toothed, acute, shining, racemes corymbose, naked; stem branching, expanded.

Pursh, 1. p. 198.

Stem 12—18 inches high, branching, decumbent. *Leaves* ovate lanceolate, on long petioles. *Flowers* in leafy, axillary panicles? composed of spikes on which the flowers are densely clustered.

Found among rubbish along the river side, Beaufort.

Flowers August—September.

2. ALBUM.

C. foliis rhomboideo-ovatis, erosis, postice-integris, superioribus oblongis, integerrimis; seminibus lævibus. Smith Fl. Brit. 1. p. 273.	Leaves rhomboid ovate, erose, entire at base, the upper oblong, entire; seeds smooth.

Sp. pl. 1. p. 1302. Walt. p. 111. Pursh, 1. p. 198.

Annual. *Stem* 3—6 feet high, branching. The *leaves*, when the plant has nearly attained its growth, white as if covered with a thin pellicle. *Panicle* axillary, composed of a few spikes.

The C. viride, now considered as a variety of this species, is conspicuous when young by a more vigorous foliage and a bright green colour; when old I have found myself unable to distinguish them by any character.

Grows in gardens and around buildings.

Flowers July—September. *Lambs quarter.*

3. BOTRYS.

C. foliis oblongis, sinuatis; racemis nudis, multifidis. Sp. pl. 1. p. 1304.	Leaves oblong, sinuate; racemes naked, many parted.

Pursh, 1. p. 198.

Annual. *Stem* much branched. *Leaves* deeply sinuate, with the segments toothed. The extremities of the branches crowded with flowers. The flavour of the whole plant is strong but not unpleasant.

Grows about Columbia.

Flowers July—August.

4. AMBROSIOIDES.

C. foliis lanceolatis, dentatis; racemis foliatis, simplicibus. Sp. pl. 1. p. 1304.	Leaves lanceolate, toothed; racemes simple, leafy.

Pursh, 1. p. 198.

The *leaves* in this species are delicate in their texture, toothed, not sinuate, and the branches have not the naked appearance of those of the C. botrys.

Grows in sandy fields, Georgia. Pursh. Very frequent.

Flowers July.

5. **Anthelminticum.**

C. foliis oblongo-lanceolatis, sinuato-dentatis, rugosis ; racemis aphyllis ; stylo 1, trifido. E.	Leaves oblong lanceolate, sinuate and dentate, rugose ; racemes naked ; style 1, 3 cleft.

Sp. pl. 1. p. 1304. Walt. p. 111. Mich. 1. p. 173. Pursh, 1. p.

Root perennial. *Stem* herbaceous, erect, furrowed, branching, 4—6 feet high. *Leaves* alternate, nearly sessile, glabrous, strongly veined, sprinkled on the under surface with glandular atoms *Flowers* in axillary, leafless spikes, which toward the summit of the branches become densely crowded. *Calyx* 1 leaved, 5 parted, persistent, glabrous : the segments concave, acute. *Filaments* longer than the calyx, transparent. *Anthers* incumbent, recurved, yellow. *Germ* superior, turbinate, truncate. *Style* 3 cleft, as long as the stamens. *Stigmas* simple, acute.

This is probably our only indigenous species. The others have all been introduced. Specimens of this plant which I have received from the Eastern States differ from ours by leaves less rugose, dentate not sinuate, and flowers in detached clusters (glomerules), not in paniculate spikes as with us.

Grows in loose soils. Common in pastures.

Flowers June—August. *Jerusalem Oak.*

The expressed juice of the leaves was formerly much used in family practice as a preventive of worms in children. An ounce or two was given on an empty stomach once or twice a week. The health of puny children is sometimes improved by it. The essential oil of the seed has been much extolled as a vermifuge.

SALSOLA. Gen. pl.

Calyx 5-phyllus. *Corolla* 0. *Capsula* 1-sperma. *Semen* cochleatum.	*Calyx* 5 leaved. *Corolla* 0. *Capsule* 1 seeded. *Seed* spiral.

1. **Caroliniana.**

S. herbacea, decumbens, glabra ; foliis dilatato-subulatis, spinescentibus ; calycibus fructiferis explanato-alatis. Persoon ex Mich.	Herbaceous, decumbent, glabrous ; leaves dilated subulate, spiny ; calyx when in fruit flattened, winged.

Walt. p. 111. Mich. 1. p. 174.

Annual ? *Stem* erect, much branched, striate, very glabrous, at the summit of the stem and branches slightly angled ; the lower branches rest on the ground and give it the appearance of a procumbent plant. *Leaves* alternate, fleshy, terete, compressed and dilated at base, embracing the stem, very acute and rigid, half an inch long. *Flowers* generally solitary, axillary, sessile, with two leaves at the base of each. Leaves of the *calyx* wide at base, slightly acuminate at the incurved summit, rose coloured, persistent. *Filaments* longer than the calyx. *Anthers* incumbent, purple. *Germ* superior, depressed. *Styles* 2, as long as the stamens. *Stigmas* acute. *Capsule* ovate, depressed, glabrous. *Seed* spiral.

Grows on the drifting sands along the margins of the ocean, and is probably only a variety of S. kali.

Flowers through the whole summer.

2. LINEARIS. E.

S? herbacea, erecta; foliis linearibus, acutis, carnosis, glabris; floribus ternis, axillaribus, spicatis; stylis 2, simplicibus. E.	Herbaceous, erect; leaves linear, acute, succulent, glabrous; flowers by threes, axillary, spiked; styles 2, simple.

S. salsa? Mich. 1. p. 174. Pursh, 1. p. 197.
Chenopodium maritimum, Walt. p. 111.

Root annual. *Stem* nearly erect, terete, furrowed, very glabrous, much branched. *Leaves* alternate, sessile, nearly 2 inches long. *Flowers* sessile, in 3 flowered fascicles, axillary, crowded. Leaves of the *calyx* obtuse, concave, angled on the back, fleshy. *Filaments* longer than the calyx. *Anthers* incumbent, yellow. *Germ* ovate. *Style* 0. *Stigmas* 2, simple, nearly acute. *Seed* covered with a thin, black, glossy pellicle (capsule), and clothed by the permanent calyx, lenticular, and obscurely spiral.

This appears to be an intermediate species between the S. salsa and spicata. From the former it differs by its calyx and styles, from the latter by its leaves.

The Salsola Caroliniana is thinly scattered along our sea coast but grows readily from the seed, and could easily be multiplied. This species now grows in some situations on our sea islands so abundantly, that if the humidity of our climate opposes no difficulty to the process, it might be profitably employed in the manufacture of Barilla.

Grows along the margin of the ocean. Generally found above the reach of common spring tides, but in situations occasionally inundated.

Flowers September--October.

ULMUS. GEN. PL.

Calyx 5-fidus. *Corolla* 0. *Samara* compresso-membranacea. (*Stamina* 4—8.)	*Calyx* 5 cleft. *Corolla* 0. *Samara* compressed, membranaceous. (*Stamens* 4—8.)

1. AMERICANA.

U. ramis lævibus, recurvis; foliorum serraturis uncinato-acuminatis; floribus pedicellatis; fructibus fimbriatis. Mich. 1. p. 172.	Branches smooth, recurved; serratures of the leaves hooked, acuminate; flowers pedicellate; fruit fimbriate.

Mich. Arbres forest. 3. p. 269.
Sp. pl. 1. p. 1325. Walt. p. 111. Pursh, 1. p. 199.

A tree which in favorable soils attains a very great size. In the low country of Georgia and Carolina, which is nearly its southern limit, it rarely exceeds 40 or 50 feet in height, and 1 or 2 in diameter. Its branches, when young and vigorous, are gracefully recurved like the feather of the ostrich, and distinguish the tree even at a distance. *Leaves* alternate, lanceolate, oblique, doubly serrate, acuminate, unequal at base. *Flowers* in small fascicles, 5—10, generally appearing before the leaves. *Stamens* varying from 4—8. *Germ* superior. *Styles* 2, short, reflected. *Fruit* a "dry berry," Linn. surrounded by a large membranous wing, and containing one seed. Gærtner calls this fruit a *Samara*.

Michaux the younger, in his splendid work on the Forest Trees of North America, considers this tree, when in favorable situations, as the most magnificent in the temperate climes of the two continents. In the plains of Genessee, and the vallies of the Ohio, it sometimes attains the height of 100 feet, with a diameter of 4—5, and is more remarkable for its grace and beauty than its size. Its wood, however, he considers inferior to the Elm of Europe (U. campestris), and recommends the introduction into this country of the curled variety of the European Elm.

Grows in rich, close soils, and along the margins of swamps.
Flowers February--March. *Elm.*

2. FULVA.

U. foliis ovali-oblongis, longissime acuminatis, utrinque pubescentibus;	Leaves oval oblong, with a very long acumination, pubescent on both

gemmis lana densa, fulva, tomentosis; floribus sessilibus. Pers. ex Mich.

sides; buds tomentose, with a thick, tawny wool; flowers sessile.

Mich. 1. p. 172. Pursh, 1. p. 200.
U. rubra, Mich. Arb. For. 3. p. 278.
U. campestris? Walt. p. 111.

A tree generally of smaller size than the preceding. *Leaves* much larger, oval, doubly serrate, equal at base, and sometimes slightly cordate, very rough. *Flowers* nearly sessile. (*Stamens* 5—7.) *Stigmas* purple. *Samara* pubescent. Mich.

Grows around Columbia, in fertile spots; rarely seen in the low country. The flowers, as in the other species of Ulmus, expand before the leaves.

Flowers February—March. *Slippery Elm.*

3. Alata.

U. ramis utrinque alato-suberosis; foliis oblongo-ovalibus, sensim acutis, basi subæqualibus; fructu pubescente, ciliato. Pers. ex Mich.

Branches on each side winged with a cork-like bark; leaves oblong oval, acute, nearly equal at base; fruit pubescent, ciliate.

Mich. 1. p. 173. Pursh, 1. p. 200.
Mich. Arb. For. 3. p. 275.
U. pumila, Walt. p. 111.

A small tree, rarely exceeding 30 feet in height; remarkable for the corky excrescence which grows along the branches, on two opposite sides. *Leaves* nearly sessile, oblong lanceolate, acute, not acuminate, doubly serrate, equal at base. *Samara* pubescent and ciliate.

Grows, like the U. Americana, in close, fertile soils.

Flowers February—March. *Whahoo.*

In our low country, however, the name *whahoo* is even now indiscriminately applied to every species of Elm.

PLANERA. Gmel.

Calyx campanulatus, 3—5 fidus. *Corolla* 0. *Stigmata* 2. *Nux* 1 sperma, scabrata.

Calyx campanulate, 3—5 cleft. *Corolla* 0. *Stigmas* 2. *Nut* 1 seeded, roughened.

1. Gmelini. Mich.

Sp. pl. 4. p. 967. Mich. 2. p. 248. Pursh, 1. p. 115.
Anon. aquatica, Walt. p. 230.
P. ulmifolia, Mich. Arb. Forest. 3. p. 283.

A tree, generally about 30 or 40 feet high, resembling very much the Elm in its foliage. *Leaves* ovate, acute, or slightly acuminate, serrate, glabrous equal at base. *Flowers* axillary, generally by threes. Segments of the *calyx* and *stamens* (3—5) variable in number. *Germ* superior, ovate. *Stigmas* 2, recurved, feathered. *Nut* slightly keeled, roughened as if irregularly covered with scales.

Grows in the river swamps in Carolina and Georgia; very common on the Santee.

Flowers very regularly in the last week in February.

CELTIS. Gen. pl. 1591.

Drupa 1-sperma. *Calyx* 5—6 partitus. *Stamina* 5—6. *Styli* 2, patentes.	*Drupe* 1 seeded. *Calyx* 5—6 parted. *Stamens* 5—6. *Styles* 2, expanding.

1. Occidentalis.

C. foliis ovatis, acuminatis, æqualiter serratis, basi inæqualibus, supra scabris, subtus hirtis; fructu solitario. Pursh, 1. p. 200.	Leaves ovate, acuminate, equally serrate, unequal at base, scabrous on the upper surface, hairy on the under; fruit solitary.

Sp. pl. 4. p. 994. Walt. p. 250. Mich. 2. p. 249.
Mich. Arb. Forest. 3. p. 225.

A large tree, sometimes attaining a height of 60—80 feet, with a diameter of 3—4. It was formerly much cultivated on the sea islands as an ornamental tree, but it has been latterly neglected. *Flowers* and *fruit* very small *Drupe* nearly globular, purple. The thin pulp that envelopes the nut is very sweet, and has acquired for the tree, in many places, the popular name of *Sugar berry Tree.*

Grows in rich, light soils, on the sea islands; generally along the margin of the salt water.

Flowers April—May.

HYDROLEA.

Calyx 5-partitus. *Corolla* subcampanulata. *Filamenta* basi dilatata. *Capsula* 2 locularis, 2 valvis.	*Calyx* 5 parted. *Corolla* campanulate. *Filaments* dilated at base. *Capsule* 2 celled, 2 valved.

1. QUADRIVALVIS. Walt.

H. spinosa, hirsuta; foliis cuneato-lanceolatis, longis; floribus subsessilibus, axillaribus. Pers. ex Mich.	Spiny, hairy; leaves wedge shaped at base, lanceolate, long; flowers nearly sessile, axillary.

Walt. p. 110. Pursh, 1. p. 187.
H. Caroliniana, Mich. 1. p. 177.

Root creeping, perennial. *Stem* 1—2 feet high, decumbent and assurgent, sometimes branched, hairy, slightly furrowed and geniculate. *Leaves* alternate, acute, entire, hairy along the veins, shining, tapering at base. *Flowers* 2—6, in axillary clusters, with a spine at each axil. *Peduncles* 1—2 lines long, hairy. *Calyx* 1 leaved, 5 parted, hairy; segments subulate, equal. *Corolla* 1 petalled, nearly campanulate, pubescent, azure, border 5 parted; segments acute. *Filaments* inserted into the tube of the corolla, dilated at base, not strictly cordate, shorter than the corolla, azure. *Anthers* incumbent, 2 celled. *Germ* superior, ovate, glabrous. *Styles* as long as the stamens, azure. *Stigmas* obtuse, glandular. *Capsule* globose, glabrous, somewhat mucronate, 2 celled, 4 valved? *Seeds* numerous, small, oval, attached to a large central receptacle.

Grows in wet, boggy ground, around ponds.

Flowers July—September.

2. CORYMBOSA. Macbride.

H. inermis, subglabra; foliis lanceolatis; calycibus hispidis; floribus terminalibus. E.	Without spines, nearly glabrous; leaves lanceolate; calyx hispid; flowers terminal.

Creeping, perennial. *Stem* 2 feet high, assurgent or erect, smooth near the base, among the branches a little hairy. *Leaves* alternate, sessile, somewhat ovate lanceolate, the veins and margins finely pubescent, the old leaves glabrous, smaller than in the preceding species. *Flowers* on the summit of each small branch, solitary, forming small terminal corymbs *Calyx* deeply 5 parted (perhaps 5 leaved); segments lanceolate, acute, hairy. almost hispid. *Corolla* 3 times as long as the calyx, nearly campanulate; segments of the border ovate, azure, with yellowish veins, and 5 white spots near the base. *Filaments* nearly as long as the corolla, suddenly dilated at base. *Styles* longer than the stamens. *Stigmas* small, capitate. *Capsule* globose, glabrous, 2 valved.

The corolla in this species is much larger than in the preceding; and the plant, from its mode of flowering and the bright colours of its corolla, very ornamental.

Found by Dr. Macbride in the pine barren ponds in St. Stephens.

Flowers through the summer.

HEUCHERA.

Petala 5. *Capsula* 2-rostris, 2-locularis.

Petals 5. *Capsule* 2 beaked, 2 celled.

1. Americana.

H. viscoso-pubescens; scapis subnudis, thyrso elongato; foliis radicalibus longe petiolatis, rotundato-lobatis. Pers. 1. p. 290.

Viscid and pubescent; scapes naked, thyrsus elongated; radical leaves on long petioles, with rounded lobes.

Sp. pl. 1. p.   Walt. p. 111.
H. cortusa. Mich. 1. p. 171.
H. viscida, Pursh, 1. p. 187.

Perennial. *Stem* 0. *Leaves* all radical, cordate, 5—7 lobed, the lobes rounded and dentate; the teeth mucronate, the margin of the leaves finely fringed; leaves 2—3 inches in either direction. *Petioles* 4—6 inches long. *Scape* naked, 2—3 feet high, terete. *Flowers* in a long terminal panicle or thyrsus. *Calyx* 5 parted. *Petals* small, inserted into the tube of the calyx. *Filaments* much longer than the calyx, into which they are inserted. *Anthers* 2 celled. *Germ* superior, 2 parted, at the summit tapering into 2 long styles. *Capsule* in 2 long beaks. *Seeds* numerous, small.

Grows in close, rich soils; generally near water courses; Columbia county, Georgia.

Flowers April—May.

2. Hispida. Pursh.

H. foliis acute-lobatis dentatisque, supra hispido-pilosis; pedunculis paniculæ paucifloris; petalis spathulatis, longitudine calycis. Pursh, 1. p. 188.

Leaves acutely lobed and toothed, hispid on the upper surface; peduncles of the panicle few flowered; petals spathulate, as long as the calyx.

Petioles and under surface of the *leaves* glabrous; teeth of the leaves very short, slightly retuse, mucronate. *Calyx* short, acute. *Stamens* exserted. Pursh.

Grows on the high mountains of Virginia and Carolina. Pursh.

Flowers May—June.

3. CAULESCENS. Pursh.

H. basi suffruticosa; foliis acute-lobatis, dentatis, ciliatis, supra glabris; petalis linearibus, calyce duplo longioribus. Pursh, 1. p. 188.

Shrubby at base; leaves acutely lobed, dentate, ciliate, glabrous on the upper surface; petals linear, twice as long as the calyx.

Scape, at base, and the petioles hairy. *Leaves* hairy along the nerves of the under surface; teeth acute, mucronate. *Calyx* short, villose. *Petals* white. Pursh.

Found on the high mountains of Carolina, by Mr. Lyon.

Flowers May—June.

DICHONDRA. GEN. PL. 451.

Calyx 5-partitus. *Corolla* campanulata, 5-partita. *Capsulæ* 2, monospermæ.

Calyx 5 parted. *Corolla* campanulate, 5 parted. *Capsules* 2, one seeded.

1. CAROLINENSIS.

D. pubescens; foliis rotundato-reniformibus, utrinque viridibus; calycibus villoso-ciliatis.

Pubescent; leaves round reniform, green on both sides; calyx villous along the margins.

Mich. 1. p. 136. Pursh, 1. p. 187.
Anon. repens, Walt. p. 110.

Perennial. *Stem* prostrate, creeping, pubescent, terete. *Leaves* alternate, entire, or slightly emarginate, a little hairy on both surfaces. *Petioles* nearly an inch long. *Flowers* axillary, solitary *Calyx* persistent; segments obovate, obtuse, hairy. *Corolla* as long as the calyx, white; segments oval, obtuse. *Filaments* shorter than the corolla, inserted into its tube. *Anthers* 2 celled, incumbent, purple. *Germ* superior, nearly round, compressed, emarginate, very villous. *Styles* 2, setaceous, as long as the stamens. *Stigmas* globose. *Capsule* 2 celled, 2 valved. *Seed* 1 in each cell.

Grows in most soils not inundated.

Flowers March—May.

GENTIANA. Gen. pl. 450.

Corolla 1-petala. *Capsula* 2-valvis, 1-locularis; receptaculis 2, longitudinalibus.	*Corolla* 1 petalled. *Capsule* 2 valved. 1 celled; with 2 longitudinal receptacles.

1. SAPONARIA.

G. foliis ovato-lanceolatis, acutis, glabris; calycis laciniis ovatis, tubo brevioribus; corollæ limbo connivente, plicis internis inæqualiter bifidis, exteriores æquantibus. E.	Leaves ovate lanceolate, acute, glabrous; segments of the calyx ovate, shorter than the tube; corolla with the border connivent, the interior segments unequally 2 cleft, as long as the exterior.

Sp. pl. 1. p. 1338. Pursh, 1. p. 185.

Perennial. *Stem* simple, 1—2 feet high, and with the leaves nearly glabrous. *Flowers* axillary and terminal, sessile, clustered. Segments of the *calyx* very short, sometimes oblong, but acute. *Corolla* ventricose, blue.

Grows along water courses in the upper districts and mountains of Carolina and Georgia.

Flowers October.

2. CATESBÆI. Walt.

G. aspera; foliis angusto-lanceolatis; calycis laciniis lineari-lanceolatis, tubo duplo longioribus; corollæ limbo erecto, plicis internis brevibus, bifidis, fimbriatis. E.	Rough; leaves narrow lanceolate; segments of the calyx linear lanceolate, twice as long as the tube; corolla with the border erect, the interior segments short, 2 cleft, fimbriate.

Walt. p. 109.

Stem erect, simple, very rough, slightly pubescent. *Leaves* scabrous. *Flowers* 1—3, sometimes more, in each axil. Segments of the *calyx* 2 or 3 times as long as the tube. Border of the *corolla* erect, or sometimes expanding. *Filaments* half the length of the corolla, inserted into its tube. *Anthers* erect, sagittate. *Germ* superior. *Stigmas* 2, short, reflected. *Seed* compressed, slightly winged.

Grows in ditches, and along the margins of rivulets. Common in the low country of Carolina and Georgia.

Flowers October.

3. OCHROLEUCA.

G. glaberrima; foliis lanceolatis obovatisque; calycis laciniis foliaceis, corollam fere æquantibus; corollæ limbo subconnivente, plicis interioribus brevibus, obliquis, subdentatis. E.	Very glabrous; leaves lanceolate and obovate; segments of the calyx leaf like, nearly as long as the corolla; corolla with the border slightly connivent, the interior segments short, oblique, irregularly toothed.

Sp. pl. 1. p. 358. Pursh, 1. p. 185 ?
G. saponaria, Walt. p. 109.

Perennial. *Stem* herbaceous, simple, nearly terete, glabrous, one foot high. *Leaves* lanceolate, very entire, nearly coriaceous, very smooth, with the margins roughened; lower leaves sometimes, perhaps from accident, obovate obtuse. *Flowers* opposite, sometimes crowded as if verticillate, on peduncles not one line long. Segments of the *calyx* linear lanceolate. *Corolla* nearly white, streaked with green and purple. *Seeds* numerous, ovate.

This plant is scarcely the G. ochroleuca of Pursh. Michaux appears to have mingled this and the two preceding species under his G. saponaria. To Dr. Macbride I have been much indebted for aid in removing the obscurity which hung over these species.

Grows in dry soils; not very common.

Flowers September—October. *Sampson's snake root.*

Gentiana ochroleuca and *Catesbei* These plants are indiscriminately called "*Sampson's Snake-root.*" They are both of them excellent bitter tonics, but the G. Catesbei seems to be more particularly entitled to notice. The other is apt to nauseate. In the form of decoction, the G. Catesbei is used with decided advantage in cases of pneumonia where the fever is nervous. It acts as a tonic and sudorific. In tincture it is deservedly esteemed as a remedy for dyspepsia. For this purpose the saturated spirituous tincture is given in doses of ¼ or ½ of an ounce, half an hour before dinner. The quantity is gradually increased. The immediate effect is a general and pleasurable glow of the skin, and increase of appetite. It prevents the acidification of the food, and enables the stomach to bear and digest articles of diet which before produced oppression and dejection of spirits. The root is the only part used.

4. ANGUSTIFOLIA.

G. caule simplici, gracili, unifloro; foliis cuneato-linearibus; corolla infundibuliformi, laciniis alternis laceris. E.	Stem simple, slender, 1 flowered; leaves linear, wedge shaped; corolla funnel shaped, with the alternate segments lacerate.

Mich. 1. p. 177. Pursh, 1. p. 186.
G. purpurea, Walt. p. 109.

Perennial. *Stem* 12—18 inches high, glabrous. *Leaves* 1—2 inches long, the upper pairs remote, very narrow; the lower cuneate; all glabrous, and, as in the other species, connate. *Flower* terminal. *Corolla* large; the large segments ovate, mucronate, expanding, the intermediate ones much shorter, lacerate, bright azure, tinged with purple.

The flower of this plant possesses singular beauty; it is scarcely possible to conceive a colour more bright and clear than it commonly exhibits.

Grows in wet pine barrens.
Flowers October—November.

5. CRINITA.

G. corollis quadrifidis, laciniis fimbriatis; foliis lanceolatis, acutis; caule erecto, tereti. Sp. pl. 1. p. 1352.	Corolla 4 cleft, segments fimbriate; leaves lanceolate, acute; stem erect, terete.

Pursh, 1. p. 185.

Stem 1—2 feet high, glabrous, terete below, 4 angled towards the summit. *Leaves* sessile, with the margins and midrib scabrous. *Flowers* solitary, axillary and terminal, on peduncles 1—2 inches long. *Corolla* pale blue, with the margins fringed.

Grows in vallies among the mountains.
Flowers October—November.

6. QUINQUEFLORA.

G. corollis quinquefidis, tubuloso-campanulatis, terminalibus, subquinis; caule ramosissimo, alato; foliis amplexicaulibus. Sp. pl. 1. p. 1339.	Corolla 5 cleft, tubular campanulate, terminal, generally by fives; stem much branched, winged; leaves amplexicaule.

G. amarelloides? Mich. 1. p. 175. Pursh, 1. p. 186.

Perennial. *Stem* erect, 1—2 feet high. branching, 4 angled, slightly winged, glabrous. *Leaves* ovate lanceolate, sessile, half embracing the stem, acute, glabrous. *Flowers* generally terminal, pedicellate, 3—5 on the summit of the branches. *Corolla* nearly tubular, smaller than usual in this genus; border 5 cleft; the segments undulate? simple, mucronate.

Found among the mountains of Carolina, by Dr. Macbride.

Flowers

7. ACUTA. Mich.

G. caule 4-gono; foliis subamplexicaulibus, oblongis, acutissimis; floribus fasciculatis, terminalibus lateralibusque; corollæ fauce ciliata. Mich. 1. p. 177.	Stem 4 angled; leaves somewhat amplexicaule, oblong, very acute; flowers in clusters, terminal and lateral; throat of the corolla ciliate.

Pursh, 1. p. 180.

Stem and *leaves* erect. *Flowers* small, of a greenish yellow hue; the flower-bearing branches very short; and the segments of the *corolla* linear lanceolate. Mich.

Grows on the highest mountains of Carolina. Mich.

Flowers

ERYNGIUM. CEN. PL.

Flores capitati. *Involucrum* polyphyllum. *Calyx* proprius 5-phyllus, superus. *Corolla* 5-petala. *Receptaculum* paleaceum. *Fructus* coronatus, 2-partibilis. Pers.	*Flowers* capitate. *Involucrum* many leaved. Proper *calyx* 5 leaved, superior. *Corolla* 5 petalled. *Receptacle* chaffy. *Fruit* crowned, divisible into 2 parts.

1. AQUATICUM.

E. foliis gladiatis, ciliato-spinosis; floralibus indivisis, brevissimis. La Marck.	Leaves gladiate, fringed with soft spines; floral leaves undivided, very short.

Sp. pl. 1. p. 1357. Pursh, 1. p. 189.

E. yuccifolium, Mich, 1. p. 164.

Root tuberous, præmorse. *Stem* 3—4 feet high, glabrous, hollow in the centre, small. *Leaves* 12- 18 inches long, 1—1½ wide, subulate, acute, concave, not channelled, bordered with long cilia which resemble spines; stem leaves sessile, not diminished at base, embracing the stem. *Involucrum* many leaved, frequently not longer than the head; leaves rigid, ovate, acuminate, mucronate, sometimes toothed. *Heads* longer than in the preceding species. *Corolla* white, chaffy, generally undivided.

Grows in flat, damp, poor soils.

Flowers June—July, *Button Snake-root.*

The root of this plant is of a pungent bitter and aromatic taste. When chewed it very sensibly excites a flow of saliva. A decoction of the root is diaphoretic and expectorant, and sometimes proves emetic. It is preferred by some physicians to the senека snake-root, which it much resembles in its effects.

2. VIRGINIANUM. Persoon.

E. foliis longo-lanceolatis, serratis; involucro capitulis multo longiore; paleis tricuspidatis. E.	Leaves long lanceolate, serrate; involucrum much longer than the heads; chaff 3 cuspidate.

Pursh, 1. p. 189.
E. aquaticum, Mich. 1. p. 163.

Root tuberous, præmorse. *Stem* herbaceous, 4—6 feet high, much divided near the summit, glabrous, hollow, thickened at the joints. *Leaves* 6—3 inches long, strictly lanceolate, acutely serrulate, sometimes dentate, tapering at each extremity but dilated at the very base; the midrib very prominent; the narrow base of the leaf 3—4 inches long. *Heads* very numerous, forming terminal corymbs, some nearly sessile. *Involucrum* 3 times as long as the heads, subulate, laciniate, with a white tint on the under surface. *Corolla* nearly white.

Grows in fresh marshes, and in inundated soils. Along the margin of Savannah river opposite the city of Savannah very common.

Flowers June.

3. OVALIFOLIUM. Mich.

E. foliis spathulato-ovatis, inciso-dentatis; capitulis involucro brevioribus; paleis æqualiter tricuspidatis. E.	Leaves spathulate ovate, deeply toothed; heads shorter than the involucrum; chaff equally 3 cuspidate. E.

Mich. 1. p. 163.
E. virgatum, Pursh, 1. p. 189.

Perennial. *Stem* 2—4 feet high, erect and decumbent, glabrous, hollow. *Leaves* alternate, acutely notched or toothed, with the margins cartilaginous, sometimes slightly cordate, the base suddenly narrowed, embracing the stem. The stem dichotomous near the summit with a *head* of flowers in each division, all on pedicels 1—3 inches long. *Involucrum* 8 leaved, a little longer than the head ; leaves linear lanceolate, with 2 or 4 rigid teeth. *Calyx* 5 leaved, persistent ; leaves ovate, acute, mucronate, green, white or pale blue at base. *Petals* linear lanceolate, white or pale blue, contracted at the middle and bent to the germ. *Filaments* twice as long as the calyx, inserted between the petals. *Anthers* incumbent. *Styles* filiform, expanding. *Stigmas* obtuse. *Seeds* 2, united, angular.

Grows in the damp pine barrens, in the middle country.

Flowers July—September.

4. FŒTIDUM.

E. foliis radicalibus lanceolatis, serratis, floralibus multifidis ; caule dichotomo. Sp. pl. 1. p. 1356.	Radical leaves lanceolate, serrate, floral leaves many cleft ; stem dichotomous.

Mich. 1. p. 163. Pursh, 1. p. 189.

Stem herbaceous, 1 foot high, slightly angled, divided near the summit ; the small branches flexuous. Root *leaves* obtuse, with weak, spinelike serratures ; leaves at the forks of the stem opposite, amplexicaule, wedge shaped, dentate, 3 cleft to the middle. *Involucrum* 6 leaved, longer than the head ; leaves rigid, furnished with 1 or 2 teeth ; chaff linear, acute. Linn.

This species is a native of the West-Indies, and though given to us by all writers, is at least one of our doubtful species. Michaux found it in Florida.

5. AROMATICUM. Baldwin.

E. caule folioso ; foliis cuspidatis, pinnatis, apice trifidis, marginibus cartilagineis ; involucro pentaphyllo, foliolis trifidis ; paleis tricuspidatis. B.	Stem leafy ; leaves cuspidate, pinnate, 3 cleft at the summit, cartilaginous along the margins ; involucrum 5 leaved, leaves 3 cleft ; chaff 3 pointed.

Root perennial, consisting of large woody fibres, very aromatic. *Stems* 9—10 inches high, many from each root, often dichotomous near the base. *Leaves* bristly, pinnate, crowded on the stem, and remarkable for their silvery cartilaginous margin. *Heads* numerous, on long divaricate peduncles, forming a kind of corymb. *Involucrum* the length of the head. Bald.

Grows in dry pine barrens ; Florida.

Flowers August—November.

6. **Gracile.** Baldwin.

E. foliis petiolatis, ovalibus, integris; caule ramosissimo, tenui; capitulis numerosis, minimis; involucris diphyllis, trifidis, linearibus. B.	Leaves petiolate, oval, entire; stem branching, slender; heads numerous, very small: involucrum 2 leaved, 3 cleft, linear.

Root fibrous, annual. *Stem* generally prostrate. *Leaves* variable, oval, ovate, sometimes 3 lobed and denticulate. The divisions of the *involucrums* also vary in form and number, linear, or linear lanceolate, 2—3 parted; the base of the segments sometimes furnished with 1 or 2 teeth. B.

Grows in the low pine barrens near St. Mary's. Very common along the sea coast to the south of Augustine.

Flowers June—July.

I have an Eryngium sent from Louisville, Georgia, by Mr. Jackson, every way larger than the preceding, yet resembling it too much to be separated without further examination. Involucrum twice as long as the head, 6 leaved, or with 2 leaves so deeply 3 cleft as to appear 6 leaved, 2 small teeth near the base of each leaf, and sometimes 2 smaller near the summit. Corolla white; sometimes involucrum, chaff, and corolla bright azure. The E. integrifolium of Walter appears to be allied to these plants.

HYDROCOTYLE. Gen. pl. 457.

Umbella simplex, involucro 4 phyllo. *Petala* integra. *Semina* semi-orbiculato-compressa.	*Umbel* simple, with the involucrum 4 leaved. *Petals* entire. *Seed* compressed, semicircular.

1. **Interrupta.** Muhl. Cat.

H. foliis orbiculatis, peltatis, duplicato-crenatis; spicis subramosis; floribus verticillatis. E.	Leaves orbicular, peltate, doubly crenate; spike sometimes divided; flowers verticillate.

H. vulgaris, Mich. 1. p. 161. Pursh, 1. p. 190.

Perennial, creeping. *Stems* terete, glabrous, branching. *Leaves* alternate, strictly peltate, glabrous, slightly crenate, petioles 2—3 inches long. *Spikes* axillary and opposite the leaves. *Flowers* in spikes, sessile, forming whorls 2—3 lines a part. *Calyx* a mere elevated line or margin around the summit of the germ. *Corolla* 5 petalled, nearly white. *Petals* lanceolate. *Filaments* shorter than the petals, inserted between them. *Anthers* incumbent, 2 celled. *Germ* inferior, orbicular, compressed. *Styles* somewhat remote, as long as the stamens. *Stigmas* obtuse. *Seeds* with 2 slight furrows.

Grows in wet soils. Common on Port Royal Island.

Flowers through the whole summer.

2. UMBELLATA.

H. foliis peltatis, crenatis, basi emarginatis; umbellis multifloris, longe pedunculatis. E.	Leaves peltate, crenate, emarginate at base; umbels many flowered, on long peduncles.

Sp. pl. 1. p. 1361. Walt. p. 112. Pursh, 1. p. 190.
H. umbellulata, Mich. 1. p. 161.

Perennial, creeping. *Stem* glabrous, branching. *Leaves* glabrous, slightly lobed, and emarginate. Ccommon *peduncles* longer than the petioles; pedicels nearly half an inch long. The *involucrum* in our species is merely a small leaf or scale at the base of each pedicel. *Calyx* slightly toothed. *Corolla* white.

Grows in bogs

Flowers through the whole summer.

3. AMERICANA.

H. foliis reniformibus, subseptem-lobatis, crenatis; umbellis paucifloris, sessilibus. La Marck.	Leaves reniform, slightly 7 lobed, crenate; umbels few flowered, sessile.

Sp. pl. 1. p. 1361. Walt. p. 113 ? Mich. 1. p. 162. Pursh, 1. p. 190.

Creeping, perennial, glabrous. *Leaves* nearly circular, split at base to the insertion of the petiole, slightly 7 lobed, lobes crenate, of a more delicate texture than our other species. *Umbels* axillary, sessile.

Grows in the mountains of Carolina. Mich.—Pursh.

My specimens are from Pennsylvania. The next species is probably the H. Americana of Walter.

4. CYMBALARIFOLIA. Muhl. Cat.

H. foliis reniformibus, tri-lobatis, lobo intermedio minore; umbellis paucifloris, pedunculatis; floribus sessilibus. E.	Leaves reniform, 3 lobed, the intermediate one smaller; umbels few flowered, on peduncles; flowers sessile.

Creeping, perennial, glabrous. *Leaves* nearly circular, rather deeply 3 lobed, crenate, the under surface slightly glaucous; the lateral lobes sometimes notched in the middle as if disposed to divide and form a 5 lobed leaf. The common *peduncles* about an inch long, the pedicels not a line. *Umbels* 7—10 flowered.

From the preceding species it differs in having the leaves much smaller, more coriaceous in their texture, more distinctly lobed, and the umbels pedunculate.

Grows around ponds; near Beaufort, common.

Flowers July—August.

5. REPANDA. Pers.

H. foliis rotundato-cordatis, subrepandis; petiolis nervisque pilosis; capitulo pedunculato, trifloro. Pers.	Leaves cordate, rounded, somewhat repand; petioles and nerves hairy; heads 3 flowered, pedunculate.

Pursh, 1. p. 190.
H. reniformis, Walt. p. 113.
H. ficaroides, Mich. 1. p. 161.

Perennial, creeping. *Leaves* cordate, rounded at the summit and auricles, slightly repand; pubescent above, hairy on the under surface, on long petioles. Peduncles short, terete, hairy, commonly 3 flowered. *Flowers* sessile, appressed: many peduncles from each joint. *Corolla* a dirty white, with a reddish margin. *Anthers* black.

The H. cordata of Walter, with entire leaves, I have never seen.

Grows in damp soils, but found in drier places than any other species.

Flowers through the summer.

6. LINEATA. Mich.

H. glaberrima; foliis crassiusculis, lineari-cuneatis, transversim lineatis; umbellis pedunculatis. Mich. 1. p. 162.	Very glabrous; leaves thick, linear, wedge shaped, transversely lined; umbels pedunculate.

Pursh, 1. p. 190.

Perennial, creeping. Joints of the *stem* nearer than in the other species. *Leaves* about 1½ inch long, obtuse, linear, tapering to the base, crossed by 5 or 6 lines as if jointed. *Umbels* axillary, 8—10 flowered; peduncles longer than the leaves; pedicels short. In my specimen the fruit appears to be distinctly 4 angled, not compressed.

Found near St. Mary's, by Dr. Baldwin. Grows in inundated places in the low country of Carolina. Mich.

Flowers April—May. Mich.

SANICULA. GEN. PL. 458.

Umbellæ confertæ, subcapitatæ. *Fructus* aculeatus. *Flores* disci abortientes.	*Umbels* crowded, somewhat capitate. *Fruit* aculeate. *Flowers* of the disk abortive.

1. MARILANDICA.

S. foliis digitatis, foliolis oblongis, incisis ; floribus fertilibus sessilibus, subternis, sterilibus pedicellatis, numerosis. Pursh, 1. p. 191.	Leaves digitate, leaflets oblong, incised ; fertile flowers sessile, generally by threes ; sterile, on footstalks, numerous.

Sp. pl. 1. p. 1367. Walt. p. 113. Mich. 1. p. 162.

Perennial. *Stem* herbaceous, erect, 2—3 feet high, terete, very glabrous. *Leaves* alternate, on long footstalks, 3 parted to the base ; the lateral lobes more slightly 2 parted ; all of the lobes notched, toothed, glabrous. *Flowers* in umbels somewhat capitate, compoundly dichotomous, with a simple ray in each division. Universal *involucrum* 2 leaved, many parted ; partial many leaved (8—10), small. *Calyx* 5 jointed, persistent. *Corolla* 5 petalled ; petals linear, obtuse, furrowed, white, inflected to the base, inserted on the summit of the germ. *Filaments* as long as the petals, inserted between them. *Germ* inferior, muricate. *Styles* 2, short, reflected. *Stigmas* simple, obtuse. *Fruit* oval, divisible in 2. *Seed* flat on one side, on the other roughened with 4 double rows of hooked bristles.

Grows in dry, shaded soils ; common.

Flowers May—August.

DAUCUS. GEN. PL. 466.

Corollæ subradiatæ. *Flosculi* disci abortivi. *Fructus* pilis hispidus.	*Corolla* somewhat radiate. *Flowers* of the disk abortive. *Fruit* hispid.

1. CAROTA.

D. seminibus hispidis ; petiolis subtus nervosis ; foliorum laciniis angusto-linearibus, acutis. La Marck.	Seed hispid ; petioles nerved on the under side ; segments of the leaf narrow, linear, acute.

Sp. pl. 1. p. 1389. Walt. p. 113. Pursh, 1. p. 191.

This valuable and well known vegetable, a native of the dry plains of Europe, is becoming completely naturalized in this country I have found it growing in the pine barrens of Effingham and Screven counties, Georgia; and Dr. Macbride informs me he has seen it in similar situations in St Johns.

Flowers April—May. *Carrot.*

2. PUSILLUS. Mich.

D. retrorsum-hispidus; foliolis laciniis minimis, lineari-lanceolatis; umbellis parvis; seminibus 8-fariam cristato-muricatis.	Retrorsely hispid; leaflets with the segments very small, linear lanceolate; umbels small; seeds muricate with 8-crested ribs.

Mich. 1. p. 164. Pursh, 1. p. 192.

Stem 12—18 inches. *Leaves* very much dissected; the segments minute. *Seeds* large for the size of the plant, with 8-crested ribs; the segments acute and doubly barbed at the summit.

Grows in dry soils. St. John's; Dr. Macbride. Savannah; Dr. Baldwin.

Flowers

AMMI. GEN. PL. 467.

Involucra pinnatifida. *Corollæ* radiatæ, omnes hermaphroditæ. *Fructus* lævis.	*Involucrums* pinnatifid. *Flowers* radiate, all fertile. *Fruit* smooth.

1. CAPILLACEUM.

A. foliis omnibus capillaceo-multifidis; seminibus glabris, sulcatis; caule ab imo divaricato, ramoso. E.	All the leaves capillary, many cleft; seeds glabrous, furrowed; stem from the base branching, branches expanded.

Mich. 1. p. 164. Pursh, 1. p. 192.
A. majus, Walt. p. 113.

Annual. *Stem* 1—2 feet high, slightly angled and furrowed, geniculate, glabrous. *Leaves* alternate, compoundly many parted: *leaflets* 3—4 parted at base, many parted at the summit; segments all linear, glabrous. Universal *involucrum* many leaved (6), shorter than the rays of the umbels; leaves pinnatifid; partial *involucrum* many leaved, linear, unequal. *Calyx* very small, 5 toothed. *Petals* ovate, acute, white, with the point incurved. *Filaments* as long as the petals. *Anthers* erect, purple. *Germ* inferior, ovate, furrowed. *Styles* short, thickened at base by a gland. *Seeds* flat on one side, with 4 furrows on the convex side.

Grows every where in wet and boggy soils.

Flowers May—June.

2. COSTATUM. E.

A. majusculum; caule inferne simplici; foliis capillaceo-multipartitis, laciniis subverticillatis; seminibus costatis. E.

Plant large; stem simple below; leaves capillary, many parted, segments commonly verticillate; seeds ribbed.

Annual? *Stem* 4—5 feet high, branching towards the summit, slightly angled, glabrous. *Leaves* very compound; each leaflet many parted to the base, as if verticillate. *Umbels* terminal, large. Universal *involucrum* many leaved (10—12), about half as long as the umbel, many parted; partial *involucrum* many leaved, leaves as long as the pedicels, with a few segments. *Petals* acuminate. *Anthers* rose coloured. *Seeds* glabrous, with 5 elevated ribs.

I have found it difficult to mark the limits between this and the preceding species, difference in size forming the most obvious distinction. This variation, however, does not arise from soil, for both grow in river swamps. The A. capillaceum is a vernal plant, spreading and rarely growing 2 feet high; this, an autumnal plant, erect and tall. In this the leaves are larger and more divided, the calyx and corolla larger, with the petals acuminate, and the seed, which in the former species are slightly furrowed, in this are 2 or 3 times as large, and so deeply furrowed as to be ribbed and almost winged.

Grows in the swamps along the margin of the Ogeechee river. Mount Prosper.

Flowers October—November.

SELINUM. GEN. PL.

Fructus ovali-oblongus, compresso-planus, in medio striatus. *Involucrum* reflexum. *Petala* cordata, æqualia. *Calyx* integer.

Fruit oval oblong, compressed, flat, striate in the middle. *Involucrum* reflected. *Petals* cordate, equal. *Calyx* entire.

1. Canadense.

S. glaberrimum, lucidum; foliis bipinnatis, foliolis multipartitis, laciniis lanceolatis; fructibus ovalibus. Mich. 1. p. 165.

Very glabrous, lucid; leaves bipinnate, leaflets many parted, the segments lanceolate; fruit oval.

Pursh. 1. p. 192.
Apium bipinnatum, Walt. p. 115?

Grows near the mouths of large rivers, from Canada to Carolina. Pursh. *Flowers* white.
Flowers July—

FERULA. Gen. pl. 475.

Involucrum universale caducum; partiale polyphyllum. *Fructus* ovalis, compresso-planus, striis utrinque 3.

Universal *involucrum* caducous; partial many leaved. *Fruit* oval, compressed, flat, with three streaks on each side.

1. Villosa.

F. foliis supradecomposito-ternatis; foliolis ovatis, serratis, rigidis, venosis; caule, pedunculis umbellisque villosis. Pursh, 1. p. 192.

Leaves supradecompound, the divisions trifoliate; leaflets ovate, serrate, rigid, veiny; stem, peduncles and umbels villous.

I have inserted this plant from Pursh, without any knowledge of it. He refers to it the F. villosa, Walt. and the Cicuta venenata, Amer. Phil. Trans. The F. villosa of Walter I strongly suspect to be the Angelica triquinata of this work. The Cicuta venenata of Greenway is a very distinct plant, entirely glabrous, perhaps really a Cicuta, certainly not a Ferula. So many of Walter's plants, however, which were once considered doubtful, have been from time to time discovered, that this at least merits a further enquiry.

LIGUSTICUM. Gen. pl. 478.

Fructus oblongus, 5-sulcatus utrinque. *Co-*

Fruit oblong, 5 furrowed on both sides. *Corol-*

rollæ æquales; petalis involutis, integris.

la equal, the petals involute, entire.

1. **Barbinode.**

L? caule lævi; nodis barbatis; foliis biternatis (plerisque); fructibus ovalibus, margine utrinque subdipteris. Pers. 1. p. 315.

Stem smooth; joints bearded; leaves generally biternate; fruit oval, with each margin slightly 2 winged.

Mich. 1. p. 167. Pursh, 1. p. 193.
Smyrnium barbinode? Muhl. Cat.

This plant is inserted in order to excite investigation. Michaux was uncertain where it should be placed. If the quotation from Dr. Muhlenberg applies, as I suspect it does, to this plant, that excellent botanist had, no doubt, an opportunity of determining the genus.

Grows in the upper districts of Carolina. Mich.

Flowers

ANGELICA. Gen. pl. 479.

Fructus subrotundus, solidus, utrinque 3-alatus, stylis reflexis. *Corollæ* æquales, petalis incurvis.

Fruit nearly round, solid, 3 winged on each side, with the styles reflected. *Corolla* equal, the petals incurved.

1. **Triquinata?** Mich.

A? pubescens; foliis tripartitis, partitionibus subquinque-foliatis, foliolis acute dentatis; fructu oblongo. E.

Pubescent; leaves 3-parted, the partitions generally 5 leaved, leaflets sharply toothed; fruit oblong.

Mich. 1. p. 167. Pursh, 1. p. 193.

Stem about 2 feet high, very pubescent near the summit. *Leaflets* lanceolate; the terminal leaflets rhomboid, sessile, when young pubescent. *Fruit* oblong, slightly winged, when young almost tomentose.

This is the A. hirsuta of Muhlenberg, it is however questionable whether it is the real A. triquinata of Michaux.

Grows in dry, sandy soils, in the middle country; common between Orangeburgh and Columbia, South-Carolina.

Flowers July—August.

2. Lucida ?

A. foliolis æqualibus, ovatis, inciso-serratis. Sp. pl. 1. p. 1430.	Leaflets equal, ovate, with deep serratures.

A. lobata, Walt. 1. p. 115.

Root perennial, very aromatic. *Stem* 3—5 feet high. *Leaves* supradecompound.

I have never seen this plant in flower, and the loss of my specimens, prevents me from speaking of it with certainty, and perhaps removing some obscurity that hangs over the southern species of this genus. The A. integrifolia of Walter is unknown to me, unless the Smyrnium integerrimum was the plant he described.

Grows in rich soils, in the upper country, descending as low as St. Johns. The roots are a favorite food of hogs, who sometimes acquire by this diet a fragrance which is not their common portion.

Flowers July—

SIUM. Gen. pl. 480.

Fructus subovatus, compressus, striatus. *Involucrum* polyphyllum. *Petala* cordata.	*Fruit* nearly ovate, compressed, striate. *Involucrum* many leaved. *Petals* cordate.
* *Seminibus compressis, alatis.*	* *Seeds compressed, winged.*

1. Rigidius.

S. foliis pinnatis ; foliolis lanceolatis, subintegerrimis. Sp. pl. 1. 1433.	Leaves pinnate ; leaflets lanceolate, nearly entire.

Sison marginatum ? Mich. 1. p. 168.

Stem rigid. *Leaves* pinnate, generally 5—6 pair and an odd one; *leaflets* sessile, strongly veined, conspicuously bordered as with a nerve, with 1 or 2 small teeth towards the summit. *Involucrum* deciduous. *Seeds* flattened, winged, and marked on the back with 8 lines ; wings nearly as wide as the seed itself.

If this be the Sison marginatum of Michaux, as Dr. Muhlenberg suspected (and the plant agrees minutely with his description), it grows " in the swamps of Carolina." Mich. I have not seen it in this country ; my specimens are from Pennsylvania.

2. **TRICUSPIDATUM.** E.

S. foliis pinnatis; foliolis inferioribus lanceolatis, superioribus obovatis, tridentatis. E.

Leaves pinnate; lower leaflets lanceolate, upper obovate, 3 toothed.

S. rigidius, Walt. p. 114.

Stem 2—3 feet high, terete, glabrous, sparingly branched. *Leaves* pinnate, 2—5 pair, and an odd one; *leaflets* lanceolate, very acute, sessile, somewhat rigid, entire towards the base, all the upper leaflets cuneate and almost equally 3 toothed. *Involucrum* caducous. *Seeds* slightly winged, with 3 lines on the back.

This plant has much affinity to the preceding species; it appears to differ in the leaves, which are remarkably toothed in this species, almost 3 cuspidate; and in the seeds, which are more slightly winged.

Grows in damp soils, but is not confined to swamps.

Flowers occasionally through the summer.

3. **DENTICULATUM.** Bald.

S. foliis impari pinnatis; foliolis ovalibus, denticulatis, acutis; involucro universali diphyllo. Bald.

Leaves unequally pinnate; leaflets oval, toothed, acute; universal involucrum 2 leaved.

Root perennial. *Stem* 3—5 feet high. *Leaves* alternate, on long petioles, generally with 3 pair of leaflets and an odd one. *Leaflets* variable in size and form in different plants, irregularly toothed, pale green on the upper surface, glaucous on the under. Universal *involucrum* sometimes wanting. Bald. Dr. Baldwin adds in a subsequent note, that the leaves are sometimes by fours. *Styles* persistent.

Grows in low, clayey soils, near the water; Savannah; Jefferson, Camden county, Georgia.

Flowers September—November.

4. **TERETIFOLIUM.** Muhl. Cat.

S. foliis simplicibus, teretibus, articulatis, acutis; seminibus alatis. E.

Leaves simple, terete, jointed, acute; seeds winged.

Oenanthe filiformis, Walt. p. 113.
O. Carolinensis, Pursh, 1. p. 194.

Root annual? *Stem* herbaceous, 3—6 feet high, slightly geniculate, terete, glabrous, hollow, branching near the summit. *Leaves* glabrous, streaked, hollow, with many transverse membranes (as in Cyperus articulatus), 4—8 inches long, 3—4 lines in diameter at the base. Universal *involucrum* many leaved, leaves subulate, persistent, nearly an inch long; partial *involucrum* similar, but smaller. *Flowers* all sessile. *Corolla* white. *Petals* acuminate, reflexed. *Filaments* as long as the corolla, red near the summit. *Anthers* erect, attached to the sides of the filaments. *Seed* compressed, with 3 lines on the back, and wings wider than the nucleus.

These four plants, perhaps with the Angelica triquinata, might form a genus between Angelica and Sium; yet they do not altogether agree among themselves. This plant is remarkable for its terete, fistulous leaves, and the attachment of its anthers; and the A. triquinata is now left with Angelica because its small umbels form perfect globes, and because its seed, though marked like theseeds of these species with 3 lines and a winged margin, has a more solid nucleus.

Grows around pine barren ponds, in the middle country. Saltcatcher.

Flowers August—September.

** *Seminibus nudis.*	** *Seeds naked.*
5. NODIFLORUM.	
S. caule procumbente; foliis pinnatis, foliolis ovatis; umbellis axillaribus, sessilibus. Persoon, 1. p. 316.	Stem procumbent; leaves pinnate, leaflets ovate; umbels axillary, sessile.

Sp. pl. 1. p. 1432. Walt. p. 115.

Annual. *Stem* weak, decumbent, diffuse, about 2 feet long, glabrous, hollow, slightly angled. *Leaves* pinnate, the upper ones frequently ternate; *leaflets* ovate, acute, acutely dentate, oblique, glabrous. *Umbels* on very short footstalks, opposite the leaves. Common *involucrum* 1, 2, 3 leaved, sometimes wanting; leaves lanceolate, unequal, reflected; partial *involucrum* many leaved (6—8), persistent. *Petals* white, slightly acuminate, expanding. *Filaments* longer than the petals, white. *Seeds* very slightly margined, 3 ribbed, with the ribs furrowed.

This plant has probably been introduced from Europe. It grows very abundantly around Charleston, and even in the streets, in drains and wet places.

Flowers April—June.

SISON. GEN. PL. 481.

Fructus ovatus, striatus. *Involucra* sub 4-phylla.	*Fruit* ovate, striate. *Involucrums* generally 4 leaved.

1. Trifoliatum.

S. foliis omnibus trifoliatis; foliolis dentatis, inferioribus ovalibus; pedunculis geminis; fructibus subrotundis. Mich. 1. p. 168.

All the leaves trifoliate; leaflets dentate, the lower ones oval; peduncles by pairs; fruit nearly round.

Pursh, 1. p. 194.

Lower *leaves* 2—3 lobed; the upper, oval lanceolate. *Umbels* terminal, solitary, on long peduncles. Mich.

Grows in the upper districts of Carolina.

Flowers

2. Pusillum.

S? foliis triternatis, multipartitis; umbellulis paucifloris (5---6); fructibus muricatis. E.

Leaves triternate, many parted; umbels few flowered (5---6); fruit muricate.

Mich. 1. p. 168. Pursh, 1. p. 194.
Ammi divaricatum, Pers. 1. p. 308.
Daucus divaricatus, Walt. p. 114.
Ligusticum pusillum, Pers. 1 p. 315.

Annual. *Stem* 1—2 feet high, glabrous, geniculate, dichotomous, branches expanding. *Leaves* alternate, much divided; segments linear, glabrous, finely serrulate near the summit. Universal and partial *umbel*, with 5—6 unequal rays, the middle one frequently sessile. Universal *involucrum* 0; partial 3 leaved; leaves small, lanceolate. *Petals* oval, obtuse, entire, flat. *Filaments* half as long as the corolla. *Fruit* nearly globose, compressed, pointed with the styles. *Seed* striate, the ridges (5 ?) muricate, with membranaceous scales.

This little plant has some equivocal characters, and has been placed in many different genera. It wants the involucrum of Daucus or Ammi, to which it is allied in habit. I have followed Michaux without having sufficient knowledge of the genus Sion to determine his correctness.

Grows in dry, sandy pastures.

Flowers March—April.

CICUTA. Gen. pl. 486.

Fructus subovatus, sulcatus. *Involucrum* universale 0; partiale 3--5 phyllum.

Fruit somewhat ovate, furrowed. Universal *involucrum* 0, partial 3--5 leaved.

1. **Maculata.**

C. foliorum serraturis mucronatis ; petiolis membranaceis, apice bilobis. Pers. 1. p. 318.

Serratures of the leaves mucronate ; petioles membranaceous (winged), 2 lobed at the summit.

Walt. p. 115. Pursh, 1. p. 195.

Perennial ? *Stem* herbaceous, erect, terete, glabrous, hollow, branching, slightly geniculate, streaked with purple, 4—7 feet high. *Leaves* compoundly triternate, sometimes quinate ; *leaflets* ovate lanceolate, acuminate, strongly serrate, with the serratures acuminate, somewhat rugose, slightly scabrous on the under surface ; petioles sheathing the stem at base with membranaceous wings, 2 lobed or parted at the summit. *Umbels* axillary, or opposite the leaves, and terminal. Universal *involucrum* commonly 2 leaved, leaves deciduous, half as long as the umbel, frequently 3 parted. Partial *involucrum* many leaved (10) ; leaflets subulate. *Calyx* 5 parted ; segments expanding. *Petals* white, with a long inflected acumination. *Filaments* longer than the corolla. *Anthers* white.

Grows in wet and inundated land ; common.

Flowers June—August.

CHÆROPHYLLUM. Gen. pl. 490.

Involucrum reflexum, concavum. *Petala* inflexo-cordata. *Fructus* oblongus, lævis aut striatus, glaberrimus.

Involucrum reflected, concave. *Petals* inflected cordate. *Fruit* oblong, smooth or striate, very glabrous.

1. **Procumbens.**

C. seminibus nitidis, lævibus ; foliis decompositis ; caule procumbente. Pers. 1. p. 320.

Seeds shining, smooth ; leaves decompound; stem procumbent.

Pursh, 1. p. 195.
Scandix procumbens, Sp. pl. 1. p. 1452.

Plant small, decumbent, glabrous. *Leaves* alternate, much divided, the first divisions opposite, pedicellate, the upper alternate, pinnatifid ; segments lanceolate, rather obtuse, mucronate, and when young slightly fringed. *Umbels* terminal, rays frequently by threes. Universal *involncrum* 0 ; partial 5 leaved, leaves small, lanceolate, ciliate. *Seeds* long, striate, pointed at the summit with the persistent styles, when mature inflected.

Found on Charleston neck, by Dr. Trescott.

Flowers May—June.

2. CANADENSE.

C. foliis ternatis ; foliolis ovato-acutis, subincisis. Pers. 1. p. 820.	Leaves ternate ; leaflets ovate acute, frequently notched.

Pursh, 1. p. 195.
Sison Canadense, Sp. pl. 1. p. 1436.
——— ————— Mich. 1. p. 168.

Stem erect, terete, glabrous, with many branches. *Leaves* ternate ; the lower broad lanceolate, acute, doubly serrate, with the large serratures mucronate ; the upper leaflets narrow, deeply cut (incised.) *Umbels* long. *Peduncles* generally by threes. Universal *involucrum* 0 ; partial 3—5 leaved, leaves very small, subulate. Some flowers abortive in each umbel. *Seeds* oblong, striate, acuminate, pointed with the persistent styles, when mature inflected (arcuate.)

Grows in the mountains of Carolina. Dr. Macbride.

Flowers July. Pursh.

3. CLAYTONI.

C. foliolis oblongo-ovalibus, pinnatifido-lobatis, pilosis ; umbella pauci-radiata, divaricata ; fructibus elongatis, teretibus, lævigatis. Pers. 1. p. 320.	Leaflets oblong, oval, lobed as if pinnatifid, hairy ; umbel with few rays, divaricate ; fruit long, terete, smooth.

Pursh, 1. p. 195.
Myrrhis Claytoni, Mich. 1. p. 170.

Stem 2 feet high, erect. *Petioles* 3 parted, the divisions 3—5 leaved. *Peduncles* by pairs, terminal. *Umbels* when in fruit divaricate ; rays 3—5, very long.

In my specimens the stem and rays, as well as the leaves, are hairy, and the seeds themselves sprinkled with hair.

Grows in the mountains of Carolina. Dr. Macbride.

Flowers June—July. Pursh.

SMYRNIUM. Gen. pl. 495.

Fructus subcompressus, gibbosus, striatus. *Petala* acuminata, carinata.

Fruit somewhat compressed, gibbous, striate. *Petals* acuminate, carinate.

1. Cordatum. Walt.

S. foliis radicalibus suborbiculato-cordatis, crenatis, caulinis petiolatis, trifoliatis, supremis 3-partitis; umbella radiis brevibus. Mich. 1. p. 170.

Root leaves nearly orbicular, cordate, crenate; stem leaves petiolate, trifoliate; upper leaves 3 parted; rays of the umbels short.

Walt. p. 114. Pursh, 1. p. 195.
Thapsia trifoliata, Sp. pl. 1. p. 1465.

Perennial? *Stem* herbaceous, 1—2 feet high, terete, glabrous. Lower *leaves* on long footstalks, cordate, rounded, as they ascend becoming 3 lobed, then trifoliate; all glabrous, crenate; petioles embracing the stem at base; upper leaves nearly sessile. Universal and partial *involucrum* 2—5 very small leaves. Walt. *Corolla* white, sometimes yellow.

Grows in high, rich land; in the mountains common. Mich.

Flowers occasionally through the summer; commonly April—June.

2. Aureum.

S. foliis biternatis, lobo medio 3—5 gono; foliolis ovali lanceolatis, serrulatis; umbella brevi, radiata. Mich. 1. p. 171.

Leaves biternate, with the middle lobe 3—5 angled; leaflets oval lanceolate, serrulate; rays of the umbel short.

Sp. pl. 1. p. 1468. Walt. p. 114. Pursh, 1. p. 196.

Root *leaves* commonly biternate, with the middle lobe again divided into three; all glabrous, serrate. *Corolla* bright yellow, almost orange coloured. Plant 1—2 feet high.

Grows in rich, high lands.

Flowers April—June.

3. ATROPURPUREUM. La Marck.

S. foliis omnibus ternatis; foliolis ovatis, acutis, serratis. Pursh, 1. p. 196.	Leaves all ternate; leaflets ovate, acute, serrate.

Flowers dark purple.
Grows on dry slate hills, in Virginia and Carolina. Pursh.
Flowers May—July.

4. INTEGERRIMUM.

S. foliis caulinis duplicato-ternatis; foliolis integerrimis, subglaucis.	Stem leaves doubly ternate, very entire; leaflets entire, somewhat glaucous.

Sp. pl. 1. p. 1468. Mich. 1. p. 171. Pursh, 1. p. 196.

Stem 1—2 feet high, glabrous, slightly branched. *Leaves* ovate and lanceolate, sometims oblique, somewhat glaucous, small. Universal *involucrum* 0, or caducous; partial, composed of few very minute leaves. Ray of the universal *umbel* long, slender; of the partial short. *Flowers* of the disk nearly sessile, sterile; of the ray on long pedicels, fertile.

Grows in rich, high lands; a native of the mountains. Found by Dr. Macbride as low on the Santee as St. Johns.

Flowers June—July.

TRIGYNIA.

RHUS. GEN. PL. 502.

Calyx 5-partitus. *Petala* 5. *Bacca* 1-sperma.	*Calyx* 5 parted. *Petals* 5. *Berry* 1 seeded.
* *Foliis pinnatis.*	* *Leaves pinnate.*

1. TYPHINUM.

R. foliis pinnatis; foliolis lanceolatis, acuminatis, argute serratis, subtus villosis. Sp. pl. 1. p. 1478.	Leaves pinnate; leaflets lanceolate, acuminate, acutely serrate, villous underneath.

Walt. p. 255. Mich. 1. p. 182. Pursh, 1. p. 204.

Arborescent. Branches and petioles very villous. *Flowers* dioicous. Fruit-bearing *panicle* crowded. *Fruit* purple, covered with a velvet-like down. Mich.

I have not seen this species in Carolina; it is inserted on the authority of Walter.

Flowers July—August.

2. GLABRUM.

R. foliis pinnatis, lanceolatis, serratis, utrinque nudis; floribus omnibus fertilibus. Sp. pl. 1. p. 1478.	Leaves pinnate, lanceolate, serrate, glabrous on both surfaces; flowers all fertile.

Walt. p. 255. Mich. 1. p. 182. Pursh, 1. p. 204.

A shrub from 6—10 feet high; branches and stem glabrous, generally tinged with purple. *Leaves* pinnate, 7—8 pair; leaflets sessile, lanceolate, acuminate, strongly dentate, glaucous on the under surface, slightly cordate. *Panicle* large, diffuse. *Flowers* all fertile.

Grows in the upper country of Carolina and Georgia. I have seen it eight miles below Augusta, and around Columbia, S. C. It rarely descends lower.

Flowers July—August.

3. ELEGANS.

R. foliis pinnatis, lanceolatis, serratis, utrinque nudis; floribus dioicis. Sp. pl. 1. p. 1478.	Leaves pinnate, lanceolate, serrate, glabrous on both surfaces; flowers dioicous.

With this species I am unacquainted; it is not distinguished in the Species Plantarum or Hortus Kewensis by any character but its dioicous flowers from the R. glabrum, of which Pursh considers it a variety.

Grows in the upper districts of Carolina.

Flowers

4. PUMILUM.

R. humile; ramis petiolisque pubescentibus; foliolis ovalibus, inciso-dentatis, subtus tomentosis; fructibus holosericeis. Mich. 1. p. 182.	Plant humble; branches and petioles pubescent; leaflets oval, sharply toothed, tomentose underneath; fruit with a silky down.

Pursh, 1. p. 204.

Stem about a foot high. *Leaves* pinnate, many paired. Reported on the authority of Mr. Lyon to be very poisonous.

Grows in the upper districts of Carolina.

Flowers July—August.

5. VERNIX.

R. glaberrimum; foliolis ovalibus, abrupte acuminatis, integris; panicula laxa; floribus dioicis. Pursh, 1. p. 205.	Very glabrous; leaflets oval, abruptly acuminate, entire; panicle diffuse; flowers dioicous.

Sp. pl. 1. p. 1479. Mich. 1. p. 183.

Shrub 6—10 feet high, (arborescent, Mich.) branches glabrous. *Leaves* rather large, oval, abruptly acuminate, entire, glabrous, pale on the under surface; petioles glabrous, without joints or wings. *Flowers* in long slender panicles, dioicous. (*Fruit* white. Mich.)

Grows in the upper country of Georgia and Carolina; rare in the lower. I have seen it within eighteen miles of Savannah, on the road to Augusta.

Flowers May—June.

6. COPALLINUM.

R. foliis pinnatis, integerrimis, petiolo membranaceo, articulato. Sp. pl. 1. p. 1480.	Leaves pinnate, entire; with the petiole winged, and jointed.

Walt. p. 255. Mich. 1. p. 182. Pursh, 1. p. 205.

A shrub 3—12 feet high, branching; the branches virgate, and covered with fine down. *Leaves* pinnate; leaflets (about 5 pair,) obliquely lanceolate, slightly revolute, shining on the upper surface, pubescent on the under; petioles 8—12 inches long, apparently jointed, with narrow wings extending from joint to joint; the leaflets growing from each joint. *Calyx* 5 parted. *Petals* 3 times as long as the calyx, oval, of an obscure yellow. *Filaments* much shorter than the corolla, inserted into a ring surrounding the germ. *Germ* superior, oval. *Styles* 3, very short. *Stigmas* globose. *Berry* compressed, ovate, pubescent; the juice very acid.

Grows in all soils not inundated.

Flowers August. *Sumach.*

The berries are possessed of an agreeable acid taste. Infused into water, they form a pleasant and cooling beverage.

** *Foliis ternatis.*	** *Leaves ternate.*

7. RADICANS.

R. foliis ternatis; foliolis petiolatis, ovatis, glabris, plerumque integerrimis; caule radicante; floribus dioicis. E.	Leaves ternate; leaflets petiolate, ovate, glabrous, generally entire; stem radicant; flowers dioicous.

Sp. pl. 1. p. 1481. Walt. p. 255.
R. toxicodendron, *var. a.* Mich. 1. p. 183. Pursh, 1. p. 205.

A vine, climbing to the height of 30 or 40 feet, shooting out radicles all along its stem, by which it adheres to the bark of trees, to fences, houses, &c. small branches glabrous, expanding. *Leaves* ternate, ovate, lanceolate, acute or acuminate, generally entire, (the lower leaves sometimes angled,) of a dark green colour. *Racemes* axillary. *Berries* white.

Very common in the low country, preferring damp soils.
Flowers May.

8. TOXICODENDRON.

R. caule erecto, debili; foliis sinuatis, lobatis integrisque, subtus tomentosis; floribus dioicis. E.	Stem erect, weak; leaves sinuate, lobed, and entire, tomentose underneath; flowers dioicous.

Sp. pl. 1. p. 1481. Walt. p. 255.
Mich. 1. p. 183. *var. b.* quercifolium. Pursh, 1. p. 205.

Stem 2—6 feet high, when tall flexible, and not firmly erect. *Leaves* ovate, varying very much, sometimes acute or acuminate, never obtuse, and all but the upper leaves variously lobed; the lateral leaves nearly sessile; the under surface of the leaves and young branches tomentose. The *racemes* are really axillary, but as the lower leaves commonly drop off, they appear naked. *Berries* white, larger than in the preceding species.

Rare in the lower country; very common in the pine barrens in the middle country.
Flowers April—May. *Poison oak. Poison vine.*

A mere contact with this or the preceding species (which perhaps are but varieties of one plant), produces distressing effects on persons of peculiar constitutions. The whole suface of the body becomes inflamed, swollen and extremely painful, and in some instances these effects have continued for weeks. Dr. Barton informs us that the application of a solution of corrosive sublimate afforded in such cases the speediest relief. The expressed juice of both these plants readily blisters the skin, which effect is followed by obstinate ulcers. The juice which exudes on plucking the leaf-stalks from the stem of the R. radicans is a good indelible dye for marking linen or cotton.

9. **Aromaticum.**

R. foliis ternatis; foliolis sessilibus, ovato-rhombeis, inciso-dentatis, tomentosis; floribus dioicis. Sp. pl. 1. p. 1482.	Leaves ternate; leaflets sessile, ovate rhomboidal, deeply toothed, tomentose; flowers dioicous.

Mich. 1. p. 184. Pursh, 1. p. 205.

A shrub 2—3? feet high; the young branches tomentose. *Leaflets* ovate, sometimes rhomboidal, coarsely toothed, and, with the petiole, tomentose. *Panicles* compact, axillary. *Flowers* amentaceous. *Berries* red.

Grows in the upper Districts of Carolina and Georgia.

Flowers May—June.

VIBURNUM. Gen. pl. 503.

Calyx 5-partitus, superus. *Corolla* 5-fida. *Drupa* 1-sperma.	*Calyx* 5 parted, superior. *Corolla* 5 cleft. *Drupe* 1 seeded.

1. **Acerifolium.**

V. foliis trilobis, acuminatis, argute serratis; petiolis eglandulosis, pilosis. Sp. pl. 1. p. 1489.	Leaves 3 lobed, acuminate, with sharp serratures; petioles without glands, hairy.

Mich. 1. p. 180. Pursh, 1. p. 203.

Leaves slightly cordate, pubescent underneath, when young sometimes undivided. *Cymes* on long peduncles. *Berries* black.

Grows in the mountains of Carolina and Georgia. Athens; Mr. Green.

Flowers May—June.

2. **Dentatum.**

V. foliis ovatis, dentato-serratis, plicatis; fructibus subglobosis. Pers. 1 p. 326.	Leaves ovate, with large serratures, plaited; fruit nearly globose.

Sp. pl. 1. p. 1488. Walt. p. 116. Mich. 1. p. 179.

A shrub 8—15 feet high, branches expanding, virgate, glabrous. *Cymes* large, terminal, naked. *Corolla* white.

Varies—a ; with leaves nearly round ovate, acute, glabrous ; fruit nearly round. V. dentatum Pursh.

b ; with leaves oval, acuminate, hairy underneath ; fruit oblong. V. pubescens. Pursh.

Grows more exclusively in swamps, and flowers earlier than any other species. *Var. a.* in the mountains (Mich.) ; the other, common in the low country.

Flowers March—April.

3. LENTAGO.

V. glabrum ; foliis lato-ovatis, acuminatis, argute serratis, petiolis marginatis, undulatis ; cymis sessilibus. Pursh, 1. p. 201.	Glabrous ; leaves broad, ovate, acuminate, sharply serrate ; petioles with waved margins ; cymes sessile.

Sp. pl. 1. p. 1491. Walt. p. 116. Mich. 1. p. 178.

Sometimes arborescent. *Leaves* frequently oval, sometimes slightly cordate, conspicuously acuminate. *Petioles* nearly an inch long. *Berries* black.

Grows in the mountains of Carolina and Georgia.

Flowers

4. PRUNIFOLIUM.

V. foliis obovato-subrotundis ovalibusque, glabris, argute serratis ; petiolis marginatis. Sp. pl. 1. p. 1487.	Leaves obovate, nearly round and oval, glabrous, sharply serrate ; petioles winged.

Walt. p. 116. Mich. 1. p. 178. Pursh, 1. p. 201.

A shrub 8—15 feet high, branches virgate, glabrous. *Leaves* acute, shining, finely serrate. *Stipules* inversely heart-shaped, serrulate. *Cymes* large. *Corolla* white, larger than in our other species, and the plant altogether ornamental. *Fruit* oval, dark blue, eatable, known by the name of sloes.

Grows in loose, dry rich soils.

Flowers April—May. *Black-haw. Sloe.*

5. NUDUM.

V. foliis ovalibus, subrugosis, margine revolu-	Leaves oval, somewhat rugose, with the margins

tis, obsolete crenulatis. Sp. pl. 1. p. 1437.	revolute, obscurely crenulate.

Walt. p. 116. Mich. 1. p. 178. Pursh, 1. p. 201.

A shrub 4—12 feet high, the branches virgate, when young covered with a ferruginous down, when old glabrous. *Leaves*, as in the whole genus, opposite, petiolate, slightly acuminate, glabrous on the upper surface, beneath dotted, the veins and margins pubescent. *Flowers* in naked terminal cymes. *Peduncles* jointed, pubescent. *Calyx* very small, white. *Corolla* 2—3 times as large as the calyx, white; segments obtuse, reflected. *Filaments* almost twice as long as the corolla, inserted into its tube. *Anthers* nearly globose, 2 celled, yellow. *Germ* clothed with the tube of the calyx. *Styles* 0? *Stigma* obscurely 3 parted. *Drupe* oval, blue, containing a hard bony seed.

Michaux mentions a variety in the mountains of Georgia with perennial leaves. In the lower country the leaves adhere to a late period of the winter.

Grows in swamps, ponds, &c. Common.

Flowers April—May.

6. OBOVATUM. Walt.

V. glabrum; foliis obovatis, crenatis, dentatis seu integerrimis, obtusis; cymis sessilibus; fructibus ovato-subrotundis. Pursh, 1. p. 201.	Glabrous; leaves obovate, crenate, dentate or entire, obtuse; cymes sessile; fruit ovate, nearly round.

Walt. 1. p. 116.
V. cassinoides. Mich. 1. p. 179?

Shrub 4—8 feet high; branches virgate. *Leaves* wedge shaped, obovate, obscurely crenulate, sometimes entire, crowded near the cymes; the lower leaves more obovate, the upper lanceolate, the under surface and peduncles covered with glandular punctures.

Grows along the margins of rivers. Very common about the termination of tide water.

Flowers April—May.

7. CASSINOIDES.

V. glabrum; foliis ovato-lanceolatis, utrinque acutis, crenatis, margine	Glabrous; leaves ovate lanceolate, acute at each end, crenate, with the

subrevolutis; petiolis carinatis, eglandulosis. Pursh, 1. p. 202.	margins slightly revolute; petioles keeled, without glands.

Sp. pl. 1. p. 1491.

The lower *leaves* obovate, the next ovate, the upper lanceolate. Linn. *Berries* blueish black. Pursh. It appears to me very probable that this and the preceding species are the same plant.

Grows in swamps.

Flowers May—June.

8. LÆVIGATUM?

V. foliis lanceolatis, lævibus, remote serratis, basi integerrimis. Sp. pl. 1. p. 1492.	Leaves lanceolate, smooth, remotely serrate, entire at base.

Pursh, 1. p. 202.

Shrub 2—4 feet high, much branched and more diffuse than usual in this genus; branches glabrous, but sprinkled with a brown excrescence resembling dust. *Leaves* small, nearly sessile, cuneate, obovate or lanceolate, near the summit dentate, glabrous, lucid on the upper surface, the under dotted and sprinkled with ferruginous dust. *Cymes* small, nearly sessile. *Corolla* white. *Filaments* much shorter than the corolla.

I refer the plant before me, with some hesitation, to the V. lævigatum. The "Folia petiolata, lato-lanceolata" of Linnæus, by no means apply to it, though in other points they agree.

Rare to me. Found near the old Club-house, between Ashepoo and Combahee rivers, in dry soils.

Flowers March—April.

9. NITIDUM.

V. glaberrimum; foliis lineari-lanceolatis, supra nitidis, obsolete serratis integrisve; ramis tetragonis. Pursh, 1. p. 202.	Very glabrous; leaves linear lanceolate, shining on the upper surface, obscurely serrate or entire; branches 4 angled.

Sp. pl. 1. p. 1492.

A low shrub with small *leaves*. Pursh.

Grows in sandy barren woods, in Carolina and Georgia. Pursh.

Flowers

SAMBUCUS. Gen. pl. 505.

Calyx 5-partitus. *Corolla* 5-fida. *Bacca* 3-sperma.	*Calyx* 5 parted. *Corolla* 5 cleft. *Berry* 3 seeded.

1. Canadensis.

S. stipulis nullis; cymis quinquepartitis; foliis sub-bipinnatis; foliolis oblongo-ovalibus, nitidis, glabris; caule frutescente. Pers. 1. p. 328.	Stipules wanting; cymes 5 parted; leaves generally bipinnate; leaflets oblong oval, shining, glabrous; stem shrubby.

Sp. pl. 1. p. 1494. Walt. p. 116. Mich. 1. p. 181. Pursh, 1. p. 203.

Shrub 8—15 feet high, the branches glabrous, thickened at each joint, slightly furrowed; the young branches sometimes virgate. *Leaves* pinnate, sometimes bipinnate; leaflets acutely serrate, with a long acumination; the terminal leaf frequently obovate. *Calyx* small, white. *Corolla* somewhat rotate; segments oval, revolute. *Filaments* shorter than the corolla, inserted into its tube. *Anthers* incumbent, yellow. *Germ* inferior. *Style* 1, thick, ventricose. *Stigma* obtuse, 3 cleft. *Berry* globose, black.

Grows in wet grounds, swamps, &c. Common.

Flowers April—July.

2. Pubescens.

S. cyma subracemosa; cortice subverrucosa; foliis terminalibus quinatis; foliolis ovali-lanceolatis, subtus pubescentibus. Pers. 1. p. 328.	Cymes racemose; bark somewhat roughened with tubercles; terminal leaves by fives; leaflets oval lanceolate, pubescent underneath.

Pursh, 1. p. 204.

S. pubens, Mich. 1. p. 181.

A small shrub. *Leaflets* oblong, acuminate, sometimes by sevens on the sterile branches; a small leaf frequently occurs at the base of a leaflet, like a small lobe that had separated from it. *Cymes* crowded, racemose. *Berries* red. Mich.

Grows among the highest mountains of Carolina. Mich.

Flowers June—July.

STAPHYLEA. Gen. pl. 507.

Calyx inferus, 5-partitus. *Petala* 5. *Capsulæ* inflatæ, connatæ. *Nuces* 2, globosæ cum cicatrice.	*Calyx* inferior, 5 parted. *Petals* 5. *Capsules* inflated, connate. *Nuts* 2, globose, marked with a cicatrice.

1. Trifolia.

S. foliis trifoliatis; racemis pendulis; petalis inferne ciliatis. Pursh, 1. p. 206.	Leaves trifoliate; racemes pendulous; petals ciliate near the base.

Sp. pl. 1. p. 1498. Walt. p. 116. Mich. 1. p. 184.

A shrub 6—12 feet high; the branches generally erect, terete, smooth. *Leaves* opposite, trifoliate; leaflets ovate lanceolate, acuminate, serrulate, on the upper surface sparingly, on the lower densely pubescent. *Flowers* in a terminal, pendulous panicle composed of opposite fascicles. *Calyx* deeply 5 parted; segments oval, obtuse. *Petals* obovate, a litte longer than the calyx, ciliate near the base, inserted on the germ. *Filaments* as long as the petals and alternating with them. *Anthers* incumbent Yellow *germ* superior, ovate, hairy. *Styles* 3, slightly cohering, hairy at base. *Stigma* capitate. *Capsule* large, inflated, 3 celled, or 3 capsules cohering on the inner side; each cell or capsule acuminate, opening on the inner side, containing 2 globular *nuts*, polished, a little compressed, with an oblique summit just above the cicatrice.

Grows common near Columbia; Mr. Herbemont. Rare in the low country.

Flowers March—April.

TURNERA. Gen. pl. 514.

Calyx inferus, 5-fidus, infundibuliformis: exterior diphyllus. *Petala* 5, calyci inserta *Stigmata* multifida. *Capsula* 1-locularis, 3-valvis.	*Calyx* inferior, 5 cleft funnel shaped; the exterior 2 leaved. *Petals* 5, inserted on the calyx. *Stigmas* many cleft. *Capsule* 1 celled, 3 valved.

1. CISTOIDES ?

T. pedunculis axillaribus, aphyllis ; foliis apice serratis. Sp. pl. 1. p. 1505.	Peduncles axillary, leafless ; leaves serrate near the summit.

Pursh, 1. p. 206.

Root perennial. *Stem* herbaceous, 12—18 inches high, simple, very hairy, hairs rufous. *Leaves* alternate, oval, obtuse, crenate, hairy, underneath almost hoary, 1 inch long, 5—6 lines wide, nearly sessile. *Flowers* solitary ; peduncles about an inch long, hairy, towards the summit jointed, sometimes geniculate. *Calyx* somewhat persistent. *Petals* obovate, yellow, almost transparent. *Filaments* half as long as the corolla, inserted into the base of the germ. *Anthers* sagittate. *Germ* superior, ovate, villous. *Styles* shorter than the stamens. *Capsule* globose, villous. *Seeds* reniform, dotted, attached to the margins of the valves. I have never seen in this species an exterior calyx.

First noticed by the late Dr. Brickell, of Savannah, growing on the common around that city ; common on the south side of the Parachucla Savannah, near the Sisters Ferry.

Flowers June—September.

LEPUROPETALON. E.

Calyx 5-partitus. *Petala* 5, squamæformia, calyci inserta. *Capsula* superne libera, 1-locularis, 3-valvis.	*Calyx* 5 parted. *Petals* 5, resembling scales, inserted into the calyx. *Capsule* free near the summit, 1 celled, 1 valved.

1. SPATHULATUM.

Pyxidanthera spathulata, Muhl. Cat.

Plant annual, glabrous. *Stem* erect and procumbent, somewhat succulent, slightly angled, branching from the base, forming little hemispherical tufts about half an inch in diameter. *Leaves* alternate, sessile, spathulate-lanceolate, obtuse, entire. *Flowers* solitary, terminal. *Calyx* persistent, large for the size of the plant, clothing the germ with its tube ; segments ovate, obtuse. *Petals* very small, like scales, ovate, white, inserted at the fissures of the calyx, persistent. *Filaments* scarcely as long as the petals, inserted between them. *Anthers* erect, nearly round, 2 celled, yellow. *Germ* slightly angled, free above, truncate, furrowed. *Styles* very short, when young cohering at base. *Stigmas* simple. *Capsule* 3 valved at the summit. *Seeds* numerous, oval, dotted, attached to the inflected margin of the valves.

Found in Chatham county, Georgia ; Silk Hope ; Vall Ombrosa ; recently near Savannah, by Dr. Baldwin. Grows in close soils.

Flowers March—April.

SAROTHRA.

Calyx 5-partitus. *Corolla* 5 petala. *Capsula* 1-locularis, 3-valvis, colorata.	*Calyx* 5 parted. *Corolla* 5 petalled. *Capsule* 1 celled, 3 valved, coloured.

1. Gentianoides.

Sp. pl. 1. p. 1515.
Hypericum nudicaule? Walt. p. 190.
Hypericum sarothra, Mich. 2. p. 79. Pursh, 2. p. 378.

Annual? *Stem* 8—12 inches high, erect, glabrous, branching from the very base. (Lower *leaves* somewhat ovate, Walt.); stem leaves opposite, small, subulate, like stipules. *Flowers* solitary, axillary, nearly sessile. *Calyx* persistent; segments subulate. *Petals* oval, narrow, obtuse, yellow, longer than the calyx. *Filaments* as long as the corolla. *Capsule* oblong, acute.

A genus very nearly allied to Hypericum.

Grows in damp soils.

Flowers July—September.

TETRAGYNIA.

PARNASSIA. Gen. pl. 523.

Calyx 5-partitus. *Petala* 5. *Nectaria* 5, cordata, ciliata, apicibus globosis. *Capsula* 4-valvis, 2-locularis.	*Calyx* 5-parted. *Petals* 5. *Nectaries* 5, cordate, ciliate, globose at the summit. *Capsule* 4 valved, 2 celled.

1. Caroliniana.

P. foliis radicalibus suborbiculatis; nectariis trisetis. Mich. 1. p. 184.	Radical leaves nearly orbicular; nectaries with 3 bristles.

Pursh, 1. p. 208.

Perennial. Radical *leaves* cordate, nearly circular, sometimes reniform, entire, obtuse, glabrous, 5—7 nerved, on petioles 2—8 inches long; stem leaves sessile, resembling those of the root. *Stem* 12—13 inches high, slightly angled, 1 flowered. *Calyx* small, 5 parted. (5 leaved ?); segments oval, 3 ribbed, with a membranous margin. *Corolla* much larger, white, petals oval or ovate, marked with 5–7 distinct green nerves and a sculptured margin near the base. *Nectaries* 3 parted, each division terminating in an awn nearly as long as the corolla. *Filaments* very short. *Anthers* sagittate. *Styles* short.

Grows near Columbia. S. C. Mr. Herbemont. Near the summit of the Alleghany mountains; Dr. Macbride.

Flowers July—September.

2. ASARIFOLIA. Ventenat.

P. foliis radicalibus reniformibus; petalis unquiculatis; nectariis trifidis. Vent. Mal. 39. t. 39.	Radical leaves reniform; petals clawed; nectaries 3 cleft.

Pursh, 1. p. 208.

Leaves and *flowers* larger than those of the preceding species. Pursh.

Grows on the highest mountains of Virginia and Carolina.

Flowers July—August.

PENTAGYNIA.

ARALIA. GEN. PL. 525.

Involucrum umbellulæ. *Calyx* 5-dentatus, superus. *Corolla* 5-petala. *Bucca* 5-sperma.	Umbels with small involucrums. *Calyx* 5 toothed, superior. *Corolla* 5 petalled. *Berry* 5 seeded.

1. SPINOSA.

A. arborescens; caule foliisque aculeatis; panicula ramosissima. umbellis racemosis. Pers. 1. p. 332.	Arborescent; stem and leaves prickly; panicle much branched, umbels racemose.

Sp. pl. 1. p. 1520. Walt. p. 117. Mich. 1. p. 186. Pursh, 1. p. 209.

Root perennial: shooting up many straight, shrubby, unbranching stems naked and prickly (not spinous) below, with the leaves crowded at the summit of the stems, like the palm trees. *Leaves* bipinnate; leaflets ovate, acuminate, slightly crenate, glaucous underneath, and somewhat pubescent; common petioles 2--3 feet long, jointed, channelled, sometimes prickly. *Panicles* terminal, very large, branches terminating in small umbels or fascicles 15—20 flowered. *Petals* oval, white, reflected, caducous, much longer than calyx. *Filaments* longer than the petals. *Anthers* incumbent, white. *Germ* depressed. *Styles* 5, short. *Stigmas* obtuse, connivent.

Grows in the richest soils, wherever they are not frequently inundated.

Flowers June--August. *Prickly-ash.*

A watery infusion of the bark of the fresh root is both emetic and cathartic, and is probably to be preferred to any emetic yet discovered among our native plants. A gum-resinous extract, which is decidedly cathartic, may be prepared by boiling the root in water. The active properties seem to be much weakened from drying the root. This plant, though chiefly employed as an emetic, has also some reputation as a remedy in those rheumatic and cutaneous affections among negroes which are supposed to have a syphilitic origin. In cases of the bite of the rattlesnake, the decoction or infusion of the fresh root is given in sufficient quantities to occasion vomiting, and in such cases it appears to deserve more attention than most other remedies.

2. RACEMOSA.

A. caule herbaceo, lævi; foliis decompositis, glabris; pedunculis axillaribus, ramosis, umbellatis. Sp. pl. 1. p. 1521.	Stem herbaceous, smooth; leaves decompound, glabrous; peduncles axillary, branching, bearing umbels.

Mich. 1. p. 185. Pursh, 1. p. 209.

Herbaceous, with wide spreading branches. *Leaves* three parted, with the divisions 3—5 leaved: leaflets ovate, acuminate, acutely serrate, frequently cordate, with the petioles and stem pubescent, sometimes hairy. Axillary *branches* leafy, bearing many umbels; terminal branches paniculate, without leaves. Mich.

Grows in the mountains. Dr. Macbride.

Flowers *Spike-nard.*

The root in the form of decoction is a much esteemed remedy for rheumatism among the inhabitants of the mountains of this state.

3. NUDICAULIS.

A. subacaulis, unifoliata, folio triquinato; fo-	Nearly stemless, bearing one leaf, leaf triquin-

liolis oblongo-ovalibus; scapo nudo, folio breviore; umbellulis paucis. Pursh, 1. p. 209.

ate; leaflets oblong oval; scape naked, shorter than the leaf; umbels few.

Mich. 1. p. 185. Sp. pl. 1. p. 1521.

Stem very short, or rather none. *Leaves* 2, decompound, with long petioles. *Leaves* 3 parted, the divisions pinnate, bearing 5 pair of leaflets. *Scape* shooting from between the leaves, 3 cleft or bearing 3 small umbels. Linn.

Grows in shaded, rocky soils, in the mountains. Pursh.

Flowers May—June.

STATICE. Gen. pl. 527.

Calyx 1-phyllus, integer, plicatus, scariosus. *Petala* 5. *Semen* 1, superum.

Calyx 1 leaved, entire, plaited, scariose. *Petals* 5. *Seed* 1, superior.

1. Limonium?

S. scapo paniculato, tereti; foliis lævibus, enerviis, undulatis, sub apice mucronatis. Pers. 1. p.

Scape panicled, terete; leaves smooth, without nerves, undulate, mucronate below the summit.

Sp. pl. 1. p. 1525.

Statice Caroliniana, Walt. p. 118. Pursh, 1. p. 212.

Root perennial, thick, woody, scaly near the surface of the ground. Radical *leaves* somewhat obovate, entire, obtuse, emarginate, with a minute point bent underneath, narrowed at base to a long petiole; stem leaves, a few scales embracing the stem and the base of the branches. *Panicle* composed of spikes with the flowers pointing one way (secund). *Involucrum* 3 leaved, 2 flowered; the 2 lower leaves lanceolate, mucronate, membranaceous; the upper rounded, coloured, with the margin scarious; the interior flower has also a 2 leaved, membranaceous involucrum. *Calyx* 10 toothed, hairy at base, the teeth alternately very minute; calyx and involucrum persistent. *Petals* longer than the calyx, obovate, blue. *Filaments* shorter than the corolla, attached to the base of the petals. *Anthers* incumbent, dark purple. *Germ* superior, 5 angled. *Styles* shorter than the stamens. *Stigmas* thickened. *Seed* oblong, angled, truncate, covered by the calyx.

Grows among the rushes along the sea shore.

Flowers July—October. *Marsh Rosemary.*

The root is very astringent, and is used by many of the most respectable physicians of the Middle and Eastern States instead of Kino or any other vegetable astringent. A decoction of the root as a wash in ulcerous sore throat is an old family prescription.

LINUM.

Calyx 5-phyllus. *Petala* 5. *Capsula* 5-valvis, 10-locularis. *Semina* solitaria.	*Calyx* 5 leaved. *Petals* 5. *Capsule* 5 valved, 10-celled. *Seeds* solitary.

1. Virginianum.

L. foliolis calycinis acutis; panicula terminali, floribus remote alternis; foliis lineari-lanceolatis, sparsis, radicalibus ovatis. Pursh, 1. p. 210.	Leaves of the calyx acute; panicle terminal, with the flowers remotely alternate; leaves linear lanceolate, those near the root ovate.

Sp. pl. 1. p. 1538. Walt. p. 117. Mich. 2. p. 36.

Annual. *Stem* 2—3 feet high, simple near the base, much divided at the summit. *Leaves* scattered, sometimes opposite. *Flowers* forming racemes along the branches. *Corolla* yellow, small. *Capsule* nearly globose.

Grows in light soils.

Flowers May—June.

DROSERA.

Calyx 5-fidus. *Petala* 5. *Capsula* 1-locularis, apice 5-valvis. *Semina* plurima.	*Calyx* 5 cleft. *Petals* 5. *Capsule* 1 celled, at the summit 5 valved. *Seeds* numerous.

1. Rotundifolia.

D. scapis simplicibus; foliis orbiculatis, basi attenuatis; petiolis elongatis, pilosis. Pursh, 1. p. 210.	Scapes simple; leaves orbicular, tapering at base; petioles long, hairy.

Sp. pl. 1. p. 1543. Walt. p. 118. Mich. 1. p. 186.

Annual. *Stem* 0. *Leaves* all radical, lying flat on the ground and forming a circle about an inch and an half in diameter, obovate, wedge shaped, rounded at the summit, tinged with a rufous colour, covered with stiff rufous hairs, each of which exudes from its point a drop of fluid, which by its viscidity detains and destroys small insects. This fluid never appears to fall from the hairs, but is secreted nearly

in proportion to its evaporation, and the secretion is supposed to be greatest in dry clear weather; hence the Drosera has acquired the popular name of *Sundew*. *Scapes* 2—3 inches high. *Flowers* 2—5, on short pedicels. *Corolla* white. The calyx and scape have the same reddish hue that distinguishes the leaves.

The brevifolia, of Pursh, is probably only a variety of this species.

Grows in damp soils, bogs, &c.

Flowers April. *Sundew.*

2. LONGIFOLIA.

D. scapis simplicibus; foliis spathulato-obovatis; petiolis elongatis, nudis. Pursh, 1. p. 211.	Scapes simple; leaves spathulate obovate; petioles long, naked.

Sp. pl. 1. p. 1544.

Grows from Canada to Carolina in situations similar to the preceding.

Flowers June—July.

3. FOLIOSA. E.

D. caulescens; foliis confertis, ovalibus, basi cuneatis; petiolis longissimis, nudis. E.	Bearing a stem; leaves crowded, oval, wedge shaped at base, on long naked petioles.

Stem 4—6 inches high, perhaps creeping, terete, a little hairy, undivided? *Leaves* crowded, oblong, small, hairy, as in the other species of this genus, tapering at base; petioles slender, without hair, 2—3 inches long, with subulate stipules at their base. The flowers I have not seen.

Found by Dr. Macbride, in the vallies among the sand hills in Chesterfield district, South-Carolina.

Flowers

POLYGYNIA.

ZANTHORHIZA.

Calyx 0. *Petala* 5. *Nectaria* 5, pedicellata. *Capsulæ* 5, monospermæ.	*Calyx* 0. *Petals* 5. *Nectaries* 5, pedicellate. *Capsules* 5, one seeded.

1. APIIFOLIA.

Sp. pl. 1. p. 1568. Mich. 1. p. 186. Pursh, 1. p. 212.

A shrub 2—3 feet high, bearing many suckers. *Stem* simple, the bark smooth, glabrous, wood yellow. *Leaves* crowded at the summit of the stem, triternate; leaflets sessile, lanceolate, acute, doubly incised, the upper surface glabrous, the under and margin pubescent; petioles 6—8 inches long, dilated and amplexicaule at base. *Flowers* in compound racemes below the leaves. *Petals* oblong, dark purple. *Nectaries* obovate, two lobed, dark purple, alternating with the petals and about half their length. *Filaments* short. *Anthers* incumbent. *Germs* generally 5, sometimes more (7—11, Schr.) superior, compressed, slightly incurved, terminating in short styles. *Stigmas* simple. *Capsules* as many as the styles, inflated, compressed, 1 celled, 2 valved, opening at the oblique summit. *Seed* oblong, compressed.

Grows in the upper districts of Carolina, near the mountains.
Flowers March—April. *Yellow root.*

The root is extremely bitter, and has been used as a substitute for Columbo. It also yields plentifully a yellow colouring matter.

CLASS VI.

HEXANDRIA.

MONOGYNIA.

204. TILLANDSIA.
205. TRADESCANTIA.
206. PONTEDERIA.
207. PANCRATIUM.
208. AMARYLLIS.
209. ALLIUM.
210. LILIUM.
211. ERYTHRONIUM.
212. UVULARIA.
213. STREPTOPUS.
214. POLYGONATUM.
215. SMILACINA.
216. CONVALLARIA.
217. HYPOXIS.
218. ORNITHOGALUM.
219. ALETRIS.
220. ASPARAGUS.
221. YUCCA.
222. AGAVE.
223. CONOSTYLIS.
224. ACORUS.
225. ORONTIUM.
226. JUNCUS.
227. CAULOPHYLLUM.
228. DIPHYLLEIA.
229. BERBERIS.

TRIGYNIA.

230 RUMEX.
231. NECTRIS.
232. TRIGLOCHIN.
233. MELANTHIUM.
234. VERATRUM.
235. ZIGADENUS.
236. HELONIAS.
237. TOFIELDIA.
238. NOLINA.
239. MEDEOLA.
240. TRILLIUM.
241. SABAL.
242. CHAMÆROPS.

TETRAGYNIA.

243. SAURURUS.

HEXAGYNIA.

244. WENDLANDIA.

POLYGYNIA.

245. ALISMA.

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TILLANDSIA.

Calyx 3-fidus, persistens, subconvolutus. *Corolla* 3-fida, campanulata. *Capsula* 1—3 locularis. *Semina* comosa.

Calyx 3 cleft, persistent, somewhat convolute. *Corolla* 3 cleft, campanulate. *Capsule* 1—3 celled. *Seeds* crowned with a tuft of hair.

1. USNEOIDES.

T. pedunculis 1-floris, brevibus; caule ramoso, filiformi, flexuoso pendulo; foliis subulato filiformibus. Persoon, 1. p. 316.	Peduncles 1 flowered, short; stem branching, filiform, flexuous, pendulous; leaves subulate, filiform.

Sp. pl. 2. p. 15. Walt. p. 119. Mich. 1. p. 195. Pursh, 1. p. 217.

Perennial, parasitical, taking root in the fissures of the bark of trees. *Stem* long, covered and somewhat roughened as well as the leaves with membranaceous scales dotted in the centre; the centre of the stem and leaves composed of a filiform, black, horny thread, resembling the internal structure of the Gorgonia and other zoophytes. *Leaves* like the stem, nearly terete. *Flowers* solitary, axillary, sessile, with 3 or 4 small leaves surrounding their base. *Calyx* and *corolla* divided nearly to the base; segments lanceolate, membranaceous, of the same length. *Filaments* 3? shorter than the corolla, and inserted between the segments. *Anthers* erect. *Germ* superior, oblong. *Style* half as long as the stamens. *Stigma* obtuse, 3 cleft. *Capsule* nearly cylindrical, 2—3 celled, the cells separating when mature, and opening on the interior side. *Seeds* several (3 to 9) in each cell, oblong, acute at each end, crowned with a long tuft of hair.

Grows on every tree in the low country.

Flowers through the summer. *Long moss.*

Black cattle eat this plant in winter with avidity, and sometimes trees are felled during a series of severe frosts to place the moss within their reach. Tree moss, when dried, is beaten until the bark falls off and the cartilaginous hair-like flexible stem used for stuffing mattresses, chairs, &c.

2. BARTRAMII. E.

T. foliis subulatis, canaliculatis, pruinosis, erectis, basi dilatatis cartilagineisque; scapo simplici foliis breviore, summitate bifloro. E.	Leaves subulate, channelled, hoary, erect, dilated and cartilaginous at base; scape simple, shorter than the leaves, 2 flowered at the summit.

Tillandsia monostachya? Bartram's Travels, p. 59.

Root fibrous, insinuating itself into the bark and decayed wood of old trees. *Leaves* about a foot long, subulate, or semiterete, channelled on the inner side, covered with whitish leprous scales. *Spike* simple, leafy; the upper leaves lanceolate, acuminate, imbricate, tinged at base with pink, the last bearing in its bosom two flowers.

This is most probably the Tillandsia seen by Bartram near the Alatamaha. It has lately been discovered again by Lewis Le Conte, Esq. in Liberty county, Georgia, growing on old trees in the Mortar Swamp, to whom I am indebted for fine specimens, which however had only begun to bud. It appears to me, as it did to Mr. Le Conte, to differ from any species described in Persoon, the latest authority to which we could refer

It resembles more the figure in Sloan, No. 122, fig. 1, than his figure of the recurvata, No. 121, fig. 1.

Flowers June.

3. RECURVATA.

T. foliis subulatis, recurvatis; scapo setaceo foliis longiore, summitate sub-bifloro. Pursh, 1. p. 217.	Leaves subulate, recurved; scape setaceous, longer than the leaves, at the summit generally 2 flowered.

Sp. pl 2 p. 15.

I insert this species from Pursh, who describes it as a parasitic plant, growing on old trees in Georgia and Florida, forming small tufts and covered with leprous scales, as the preceding species. *Flowers* purple.

TRADESCANTIA. GEN. PL. 543.

Calyx 3-phyllus. *Petala* 3. *Filamenta* villis articulatis. *Capsula* 3-locularis.	*Calyx* 3 leaved. *Petals* 3. *Filaments* villous, with jointed hair. *Capsule* 3 celled.

1. VIRGINICA.

T. erecta, subramosa; foliis longe lanceolatis, canaliculatis; floribus capitulatis, capitulis sessilibus. E.	Erect, branching; leaves long, lanceolate, channelled; flowers in heads, heads sessile.

Sp. pl. 2. p. 16. Mich. 1. p. 193. Pursh, 1. p. 218.
T. cristata, Walt. p. 119.

Root perennial, creeping. *Stem* herbaceous, succulent, glabrous, striate, 2 feet high, sometimes branching. *Leaves* sessile, long, channelled, glabrous, when young ciliate, sprinkled with elevated dots, embracing, and the lower sheathing the stem. *Flowers* in terminal heads, which appear to be divided, and the flowers in 2 rows in each division ; the interior or upper flowers first open. Leaves of the *involucrum* 2, resembling the other leaves ; pedicels 1 inch long. *Calyx* persistent. *Petals* ovate, twice as long as the calyx, purple or rose coloured, expanding in the morning, and before noon withering. *Filaments* shorter than the corolla, inserted at the base of the germ, beautifully feathered with jointed down of the same colour as the petals. *Anthers* incumbent, crescent shaped, yellow. *Germ* superior, 3 angled. *Style* as long as the stamens. *Stigma* small, capitate. *Capsule* somewhat 3 angled, 3 celled, 3 valved. *Seeds* 2? in each cell, compressed, angled.

Grows sparingly in the low country, glabrous ; sent to me from Pendleton, by Messrs. Perry and Brown, hairy, and with ciliate leaves and involucrum.

Flowers April—June.

2. ROSEA. Mich.

T. erecta, simplex ; foliis lineari-lanceolatis ; capitulis pedunculatis. E.	Erect, simple ; leaves linear lanceolate ; head on peduncles.

Mich. 1. p. 193. Pursh, 1. p. 218.
T. Virginica, Walt. p. 119.

Perennial, cespitose. *Stem* 8—12 inches high, succulent, simple. *Leaves* at their base sheathing the stem, channelled, glabrous, dotted, hairy at the throat, when young ciliate. *Flowers* in a terminal capitulum on a peduncle 3—4 inches long, which perhaps is correctly only the last joint of the stem ; pedicels scarcely an inch long. *Calyx* glabrous, leaves lanceolate, spotted. *Petals* 3 times as long as the calyx, of a bright rose colour. *Seed* one in each cell, round on one side, angled on the other.

This is a much smaller species than the preceding, and if it does not creep would form a beautiful border plant for the beds in a flower garden. Grows in most soils, which are moderately fertile.

Flowers May—August.

PONTEDERIA. GEN. PL. 545.

Corolla 1-petala, 6-fida, bilabiata. *Stamina* 3 apice sive tubo corollæ inserta. *Capsula* 3-locularis.	*Corolla* 1 petalled, 6 cleft, 2 lipped. 3 *Stamens* inserted on the summit or tube of the corolla. *Capsule* 3 celled.

1. CORDATA.

P. foliis cordatis; floribus confertis, spicatis. Sp. pl. 2. p. 23.	Leaves cordate; flowers in crowded spikes.

Walt. p. 120. Mich. 1. p. 193. Pursh, 1. p. 223.

Perennial, cespitose. *Stem* 0. *Leaves* radical, cordate, obtuse, entire, membranaceous, very glabrous; petioles 2 feet long, succulent, sheathing at base the interior leaves; the central petiole jointed, and producing from a fissure above the joint the spike of flowers. *Spike* crowded, buds? 3—6 flowered; common peduncle clothed with transparent jointed hair. *Corolla* villous on the outer surface, blue, the upper lip 3 parted to its base, the lower with a yellow spot in the centre and 3 cleft at the summit. *Filaments* 6—3 at the base of the tube of the corolla, apparently attached to the lower lip, 3 at the summit of the tube attached to the upper lip; all short. *Anthers* erect, blue; pollen yellow. *Germ* superior, obovate, furrowed. *Style* as long as the corolla. *Stigma* obtuse. (*Seed* several in each cell. Linn.)

Grows in bogs and ditches.

Flowers April—September. *Wampee.*

2. LANCIFOLIA. Muhl. Cat.

P. foliis oblongo-lanceolatis; floribus spicatis. E.	Leaves oblong lanceolate; flowers in spikes.

From the preceding species this only differs in the leaves, which are when young linear lanceolate, when old somewhat ovate: the spike is produced in the same manner, but is smaller, arising probably from the comparative sterility of the soil in which usually grows.

Although it is now many years since I first noticed this plant growing around the pine barren ponds in Chatham county, Georgia, I feel yet a doubt whether it is more than a variety of the P. cordata.

Flowers May—June.

PANCRATIUM. GEN. PL. 551.

Corolla supera, infundibuliformis, tubo longo. *Nectarium* 12-fidum. *Stamina* nectario imposita.	*Corolla* superior, funnel shaped, with the tube long. *Nectary* 12 cleft. *Stamens* placed on the nectary.

1. MEXICANUM?

P. spatha sub-biflora; foliis oblongo-lanceolatis; nectarii dentibus sex staminiferis, intermediis simplicibus. Sp. pl. 1. p. 42.	Spathe generally 2 flowered; leaves oblong lanceolate; six teeth of the nectary bearing the stamens, six intermediate simple.

Walt. p. 120. Mich. 1. p. 188. Pursh. 1. p. 221.

Root bulbous. *Leaves* long, strap shaped, rather obtuse, somewhat succulent, glabrous. *Scape* 18–24 inches long, generally 2 flowered in its native soils, when cultivated very commonly 3—4 flowered. *Sheath* generally composed of a pair of membranous leaves, the interior small. Tube of the *corolla* 3 inches long, the border six parted, the segments linear lanceolate, as long as the tube, white, tinged on the back with green. Tube of the *nectary* very short, inserted on the summit of the tube of the corolla: border half the length of the corolla, expanding, very delicate and membranous, the margin irregularly 12 parted, six teeth extending into filaments, the intermediate angle obtuse, undulate, entire. *Filaments* as long as the corolla, extending down the nectary to the tube of the corolla. *Germ* inferior, 3 angled. *Style* as long as the corolla, oblique. *Stigma* capitate, slightly 3 cleft. *Capsule* 3 celled, 3 valved. *Seed* many in each cell, angled.

Our Pancratium has been figured and described in the Botanical Magazine, 827, as the P. rotatum. I have not the means of determining whether it is really distinct from the P. mexicanum. Linn.

The texture of the nectary is so delicate that the margin is frequently torn: this occurs even in the expansion of the flower from the slight coherence of the folds in the bud; but the margin is naturally entire.

I have cultivated plants from the upper country, Augusta, Georgia, and the rivers in the low country: they have differed much in the size of the root and leaves, but in the flowers I could perceive no difference.

Dr. Macbride mentions, that in the Santee swamps, where he has been most accustomed to see this plant, it frequently bears more than two flowers. In the Ogeechee and Savannah rivers, where I have generally observed it, it is almost invariably two flowered.

Grows in the marshes along the borders of fresh water rivers.

Flowers April—May.

2. MARITIMUM.

P. spatha multiflora; foliis lineari-lanceolatis;	Spathe many flowered; leaves linear lanceolate;

nectarii dentibus duodecim non staminiferis. Sp. pl. 2. p. 42.	the nectary with 12 teeth not bearing stamens.

Walt. p. 120. Pursh, 1. p. 222. Catesby, 2. app. p. 5 t. 5.

Scape 12--18 inches high. *Nectary* funnel shaped, erect, with 2 teeth between each filament.

Seen by Catesby in the Parachucla Savannah, St. Peter's parish, South-Carolina.

Flowers June—August.

AMARYLLIS. GEN. PL. 554.

Corolla hexapetaloidea, irregularis. *Filamenta* fauci tubi inserta, declinata (aut recta), inæqualia proportione vel directione.	*Corolla* nearly 6 petalled. irregular. *Filaments* inserted in the throat of the tube, declining (or straight), unequal in proportion or direction.

1. ATAMASCO.

A. spatha bifida, uniflora; corolla campanulata, æquali; pistillo declinato. Pers. 1. p. 352.	Spathe 2 cleft, 1 flowered; corolla campanulate, equal; pistil declining.

Sp. pl. 2. p. 51. Walt. p. 120. Mich. 1. p. 187. Pursh, 1. p. 222.

Root bulbous. *Leaves* linear, entire, somewhat succulent, concave, glabrous, about a foot long. *Scape* 6 inches high, 1 flowered, terete, not springing from the centre of the leaves but among the lateral ones. *Spathe* 1 leaved, a little coloured, opening at one side, 2 cleft at the summit. *Calyx* 0. *Corolla* 6 petalled? slightly united into a tube at base; petals all lanceolate, acute, equal, white, the three exterior striate and tinged with pink at the summit. *Filaments* shorter than the petals. *Anthers* incumbent. *Germ* inferior, pedicellate, nearly cylindrical. *Style* longer than the stamens, leaning to one side of the corolla. *Stigma* 3 cleft. *Capsule* 3 valved, 3 celled. *Seeds* many in each cell.

Grows generally in stiff, clayey soils.

Flowers March. *Atamasco lilly. Stagger-grass.*

Generally supposed to be poisonous to cattle, and to produce the disease in calves called "staggers."

ALLIUM. GEN. PL. 557.

Corolla 6-partita, patens. *Spatha* multiflora. *Umbella* congesta. *Capsula* supera.

Corolla 6 parted, expanding. *Spathe* many flowered. *Umbels* clustered. *Capsule* superior.

1. CANADENSE.

A. scapo nudo, tereti; foliis linearibus; capitulo bulbifero. Sp. pl. 2. p. 68.

Scape naked, terete; leaves linear; head bearing bulbs.

Walt. p. 121.

Leaves linear, flat, smooth, straight, about a span long. *Scape* terete, scarcely longer than the leaves. *Capitulum* composed of bulbs. *Flowers* few, pedicellate, white. *Petals* oval. *Stamens* simple, as long as the corolla. Linn.

Grows from Canada to Carolina. Pursh.

Flowers June.

2. CERNUUM. Muhl. Cat.

A. scapo subancipiti; foliis linearibus; umbella multiflora, nutante; staminibus simplicibus, exertis; seminibus solitariis. E.

Scape somewhat ancipitous; leaves linear; umbel many flowered, nodding; stamens simple, exserted; seeds solitary.

Bulb tunicated. *Leaves* all radical, 8—12 inches long, 3 lines wide, flat, striate, sheathing at base. *Scape* 1—2 feet high, slightly compressed, bent near the summit. *Umbels* many flowered. *Petals* lanceolate, rose coloured. *Filaments* longer than the petals. *Anthers* incumbent, simple. *Style* as long as the stamens. *Stigma* simple. *Capsule* nearly globose. *Seeds* solitary.

Found on the mountains of Carolina, by Dr. Macbride.

Flowers July.

3 STRIATUM.

A. scapo nudo, subtriquetro; foliis linearibus, concavis, dorso striatis;

Scape naked, slightly 3 angled; leaves linear, concave, streaked on the

corollis patentibus; staminibus simplicibus, inclusis.	back; corolla expanding; stamens simple, included.

Pursh, 1. p. 223. Sp. pl. 2. p. 77.
A. inodorum, Sp. pl. 2. p. 76.
A. fragrans, Pursh, 1. p. 222.
A. ornithogaloides, Walt. p. 121.
A. Canadense ? Mich. 1. p. 194.

Root a tunicated bulb. *Leaves* all radical, glabrous, a little succulent, 6—8 inches long, 2—3 lines wide, each at base sheathing the interior leaves. *Scape* 8—12 inches long, compressed. *Spathe* 2 leaved; leaves ovate, acute, withering. *Flowers* 8—10, in a simple umbel; pedicels 2—3 inches long. *Petals* oval, white, the 3 exterior rather larger than the interior, and slightly keeled with a coloured midrib. *Filaments* unequal, shorter than the petals. *Anthers* incumbent, 2 lobed. *Germ* superior, somewhat cylindrical. *Style* as long as the stamens. *Stigma* obtuse. *Capsule* 3 celled, 3 valved, with a few angular seeds in each cell.

Grows in the pine barrens of Carolina and Georgia. Unless severely bruised, this plant exhibits none of that peculiar and penetrating odour which characterises this genus.

Flowers March—April.

4. MUTABILE. Mich.

A. scapo tereti; foliis linearibus, planis; umbella multiflora; staminibus simplicibus, inclusis; seminibus solitariis? E.	Scape terete; leaves linear, flat; umbel many flowered; stamens simple, included; seeds solitary.

Mich. 1. p. 195.

Bulb curiously webbed or netted with intersecting nerves. *Leaves* 12—18 inches long, very narrow, becoming setaceous near the summit, membranous and sheathing at base. *Scape* 2 feet high. *Spathe* 3 leaved. *Petals* lanceolate, acute, changing from an obscure green to a bright rose colour. *Filaments* shorter than the petals. *Anthers* incumbent, simple. *Germ* globose? *Style* as long as the stamens. *Stigma* obtuse. *Capsule* nearly globose. *Seeds* (in all the specimens I have seen) solitary.

Grows in wet pine barrens. Rare to me. Found where the road leading from Beck's Ferry unites with the Purysburgh road. Sent from St. Stephens by Dr. Macbride.

Flowers May—June.

I have not seen this species bearing bulbs; and I strongly suspect that Michaux's bulb-bearing variety is the A. Canadense, Linn.

LILIUM. Gen. pl. 558.

Corolla 6-petala, campanulata, linea longitudinali nectarifera; laciniis sæpius reflexis. *Capsula* valvulis pilo cancellato connexis.

Corolla 6 petalled, campanulate, with a longitudinal nectariferous line; the segments most commonly reflected. Valves of the *capsule* connected by interwoven hair.

1. Catesbæi. Walt.

L. foliis sparsis, lineari-lanceolatis; caule unifloro; corolla erecta; petalis longe unguiculatis, margine undulatis, apice reflexis. Sp. pl. 2. p. 86.

Leaves scattered, linear lanceolate; stem one flowered; corolla erect; petals with long claws and undulate margin, reflected at the summit.

Walt. p. 123. Mich. 1. p. 197. Pursh, 1. p. 228.

Root a scaly bulb; scales ovate lanceolate, thick, succulent. *Stem* herbaceous, erect, simple, glabrous, terete, 2 feet high. *Leaves* sessile, appressed, crowded near the middle of the stem. *Flower* terminal. *Petals* ovate lanceolate, tapering at base into a claw half an inch long, red, becoming yellow near the base, and variegated with dark brown spots. *Nectary?* formed of a small melliferous pore at the base of the petals. *Filaments* nearly as long as the petals. *Anthers* incumbent, versatile. *Germ* superior, obtusely 3 angled, obtuse. *Style* as long as the stamens. *Stigma* thick, capitate. *Capsule* 3 celled, 3 valved.

Grows in flat pine barrens, around ponds.
Flowers July—August. *Catesby's lilly.*

2. Philadelphicum.

L. foliis verticillatis; floribus erectis; corolla campanulata; petalis unguiculatis. Sp. pl. 2. p. 90.

Leaves verticillate; flowers erect; corolla campanulate; petals with claws.

Walt. p. 123. Pursh, 1. p. 229.

Stem 2 feet high, glabrous. *Leaves* verticillate and scattered, narrow lanceolate, slightly acuminate, sometimes oblique, without nerves, *Flowers* generally solitary (sometimes 3 or more, Pursh.), terminal. *Petals* spathulate, lanceolate, with the claw long.

Inserted on the authority of Walter. For my specimens I am indebted to Mr. Collins of Philadelphia, and Dr. Bigelow of Boston.

Flowers July—August.

3. CANADENSE.

L. foliis remote verticillatis, lanceolatis, trinervibus, subtus ad nervos subhirsutis; pedunculis terminalibus, elongatis, plerumque ternis; corollis cernuis, campanulatis, revolutis. Pursh, 1. p. 229.

Leaves remotely verticillate, lanceolate, 3 nerved, hirsute along the under surface of the nerves; peduncles terminal, long, generally by threes; corolla nodding, campanulate, revolute.

Sp. pl. 2. p. 89. Mich. 1. p. 197.

Root a scaly bulb. *Stem* 2—4 feet high, terete, glabrous. *Leaves* all verticillate, linear lanceolate, and lanceolate, 3 nerved, sometimes acuminate. *Flowers* generally by threes, terminal, on long reflected peduncles. *Corolla* somewhat campanulate, revolute. *Petals* lanceolate.

Grows in the vallies among the mountains.

Flowers July—August.

4. CAROLINIANUM. Mich.

L. foliis verticillatis sparsisque, cuneato-lanceolatis; floribus paucis, terminalibus (1—3); pedunculis crassis; corollis revolutis. E.

Leaves verticillate and scattered, lanceolate, wedge shaped at base; flowers few, terminal (1—3); peduncles thick; corolla revolute.

Mich. 1. p. 197.
L. Martagon, Walt. p. 123.

Root a scaly bulb. *Stem* 2 feet high, terete. *Leaves* verticillate, 5—8 leaves in a whorl, with scattered leaves interspersed, obscurely 3 nerved, somewhat succulent, very entire. *Flowers* terminal, by threes, in pairs, or solitary. *Petals* long, lanceolate, very acute, the midrib of the 3 interior petals winged? *Corolla* orange coloured, spotted with dark purple.

There is some obscurity in this species; it is possible that it is the L. superbum, growing in a soil not favorable to its full expansion.

This however flowers generally in August, the L. superbum, in the gardens in Charleston, flowers in June.

Grows in damp soils, in the low country of Carolina. Not very common.

Flowers July—August.

5. SUPERBUM.

L. foliis glabris, imis verticillatis, cæteris sparsis; floribus racemoso-pyramidatis, reflexis; corollis revolutis. Sp. pl. 2. p 88.	Leaves glabrous, lower leaves verticillate, the rest scattered; flowers reflected, in a pyramidal raceme; corolla revolute.

Walt. p. 123. Pursh, 1. p. 230.

Root a scaly bulb, producing offsets at some distance from the parent root. *Stem* 4—8 feet high, terete, glabrous. Lower *leaves* 6—9, in a whorl, the upper scattered, all linear lanceolate, 3 nerved. *Corolla*, as in all of our species, of a bright orange colour, spotted with dark purple.

A splendid species, growing sometimes 7—8 feet high, and bearing 30 to 50 flowers, not more remarkable for the brilliancy of their colour, than for their graceful arrangement.

Grows in the vallies of the upper country, and among the mountains.

Flowers July—August. *Superb lilly.*

ERYTHRONIUM. GEN. PL. 562.

Corolla 6-petala, campanulata; *nectario* tuberculis 2, petalorum alternorum basi adnatis.	*Corolla* 6 petalled, campanulate. *Nectary* composed of 2 tubercles, attached to the base of the alternate petals.

1. AMERICANUM.

E. stylo clavato, trigono; foliis apice involutis. Smith, in Rees' Cycl. vol. 14.	Style club shaped, 3 angled; leaves involute at the point.

E. lanceolatum, Pursh, 1. p. 231.
E. Dens canis, *var. r.* Sp. pl. 2. p. 96.
——— ——— Mich. 1. p. 198.
Anon. pudic ? Walt. p. 123.

Perennial. *Leaves* somewhat radical, lanceolate, sheathing at base, stained with purple, involute at the summit. *Scape* 8—12 inches, bearing a solitary nodding flower. *Calyx* 0. *Petals* 6, 3 exterior, reflected from about the middle. *Nectary* 2 scales at the base of the inner petals. *Stamens* short. *Style* shorter than the petals. *Stigmas* 3. *Capsule* nearly globular, 3 celled, 3 valved. *Seeds* numerous.

Grows in the upper country of Georgia and Carolina. Louisville, Georgia. Mr. Jackson.

Flowers March—April.

UVULARIA. Gen. pl. 560.

Corolla 6-petala, erecta. *Nectarii* fovea baseos petali. *Filamenta* brevissima. *Stigmata* 3, longa. *Capsula* 3-gona, 3-locularis.	*Corolla* 6 petalled, erect. A nectariferous cavity at the base of the petals. *Filaments* very short. *Stigmas* 3, long. *Capsule* 3 angled, 3 celled.

1. Perfoliata.

U. foliis perfoliatis, ellipticis, obtusis; corolla campanulata, intus tuberculata; antheris aristatis. Smith, Exot. Bot. 1. p. 95. t. 49.	Leaves perfoliate, elliptic, obtuse; corolla campanulate, tubercled within; anthers awned.

Sp. pl. 2. p. 94. Mich. 1. p. 199. Pursh, 1. p. 231.

Root perennial. *Stem* herbaceous, erect, 8—12 inches high. *Leaves* elliptic, rather acute, having many nerves, entire, glabrous; the lower leaves only sheathes, clothing the stem. *Flowers* few, solitary, axillary, nodding. *Calyx* 0. *Petals* lanceolate, pale yellow, roughened on the inner surface with small tubercles. *Capsule* somewhat turbinate, trigonous, truncate, with several seeds in each cell.

Grows sparingly in the low country. I have seen it near Beaufort in fertile soils. More common in the upper country.

Flowers April.

2. Flava. Smith.

U. foliis perfoliatis, elliptico-oblongis, obtusis, basi undulatis; corolla	Leaves perfoliate, elliptic oblong, obtuse, undulate at base; corolla

basi attenuata, intus scabrata; antheris aristatis. Smith, Exot. Bot. 1. p. 97. t. 50.	tapering at base, roughened within; anthers awned.

Pursh, 1. p. 231.

Flowers larger than those of the U. perfoliata, and of a brighter yellow. Pursh.

Grows in shaded, sandy soils, from New-Jersey to lower Carolina. P. Flowers May—June.

3. GRANDIFLORA?

U. foliis perfoliatis, oblongis, acutis; petalis utrinque glabris; antheris submuticis; nectario subrotundo. Smith, Exot. Bot. 1. p. 99. t. 51.	Leaves perfoliate, oblong, acute; petals glabrous on both surfaces; anthers without awns; nectary nearly round.

Pursh, 1. p. 231.
U. perfoliata, *var. a.* Mich. 1. p. 199.

A plant every way larger than the preceding species, and more branched. *Leaves* very obtuse at base, acute, sometimes slightly acuminate at the summit. *Petals* oblong, not entirely smooth on the inner surface, though less tubercled than in the preceding species.

The specimens in my possession were collected among the mountains by Dr. Macbride, and near Athens, Georgia, by Mr. Green.

Flowers in the spring.

4. PUBERULA. Mich.

U. foliis utrinque concoloribus, ovalibus, basi rotundatis, subamplexicaulibus; capsula sessili, ovata. Mich. 1. p. 199.	Leaves of the same colour on both sides, oval, rounded at base, and somewhat amplexicaule; capsule sessile, ovate.

Pursh, 1. p. 232.

This species is inserted on the authority of Michaux. I have specimens sent me from Athens, by Mr. Green, of an Uvularia, 8—12 inches high. *Stem* sheathed near the base, pubescent and sometimes divided at the summit, slightly angled. *Leaves* lanceolate, sessile, amplexicaule, of the same colour on each side, pubescent along the margins. *Flowers* 1 or 2 on each stem, rather large, smooth on the inner surface, *on peduncles* nearly an inch long. Do they belong to this species?

Grows on the mountains of Carolina. Mich.

5. Sessilifolia.

U. foliis sessilibus, lanceolato-ovalibus, subtus glaucis; capsula stipitata, ovata. Pers. 1. p. 360.	Leaves sessile, lanceolate oval, glaucous underneath; capsule ovate, on a footstalk.

Sp. pl. 2. p. 95. Mich. 1. p. 199. Pursh, 1. p. 231.

Stem 8—12 inches high, generally divided near the summit, with a solitary flower on one branch. *Leaves* sessile, somewhat amplexicaule, many nerved, glabrous on the under surface. *Flower* on a short peduncle. (Segments of the *corolla* flat, smooth within. Pursh.)

Rare in the low country; common in the upper. Columbia; Mr. Herbemont. St. Johns; Dr. Macbride.

Flowers May--June.

STREPTOPUS. Mich.

Corolla 6-petala, subcampanulata. *Stigmata* brevissima. *Bacca* subglobosa, coriacea.	*Corolla* 6 petalled, somewhat campanulate. *Stigmas* very short. *Berry* globular, leathery.

1. Roseus.

S. foliis amplexicaulibus, serrulato-ciliatis; antheris brevibus, bicornibus. Mich. 1. p. 201.	Leaves amplexicaule, serrulate ciliate; anthers short, two horned.

Pursh, 1. p. 232.

Stem 12--18 inches high, divided, glabrous. *Leaves* oval, acuminate, many nerved, with 5 more conspicuous than the rest. *Flowers* small, axillary, solitary, on short geniculate nodding peduncles, rose coloured.

The flowers in this genus are more numerous on each stem than in the genus Uvularia.

Grows in the mountains of Carolina. Dr. Muhl. Pursh.

Flowers May—July.

For my specimens I am indebted to the kindness of Mr. Kin of Philadelphia.

2. **Lanuginosus.** Mich.

S. incana; foliis sessilibus, subcordatis; pedicellis geminatis. Mich. 1. p. 201.	Hoary; leaves sessile, somewhat cordate; pedicels by pairs.

Pursh, 1. p. 232.

Leaves with an abrupt and long acumination. *Flowers* three times the size of its congeners, of a greenish hue. *Berry* 1 or 2 seeded, with 1 or 2 cells abortive. Mich.

Grows among the highest mountains of Carolina. Mich.

Flowers June.

POLYGONATUM. Desfontaines, in Mus. Hist. Nat. 9. p. 18.

Corolla infera, 6-fida, cylindrica. *Filamenta* tubo superne inserta. *Bacca* globosa, 3-locularis, loculis 2-spermis. *Flores* axillares.	*Corolla* inferior, 6 cleft, cylindrical. *Filaments* inserted near the summit of the tube. *Berry* globose, 3 celled, cells 2 seeded. *Flowers* axillary.

1. **Biflorum.** Walt.

P. caule tereti, lævi; foliis alternis, sessilibus, elliptico-lanceolatis, trinervibus; pedunculis axillaribus, solitariis, bifloris.	Stem terete, smooth; leaves alternate, sessile, elliptic lanceolate, 3 nerved; peduncles axillary, solitary, 2 flowered.

P. angustifolium? Pursh, 1. p. 234.

Convallaria biflora, Walt. p. 122.

Stem 12—18 inches high. *Leaves* slightly amplexicaule, glabrous. *Corolla* pale yellow, tipped with green. Perhaps only a variety of the succeeding species, but the leaves are narrower, and the peduncles almost invariably 2 flowered.

Grows in the upper country; in the lime stone lands of St. Johns, not uncommon.

Flowers

2. MULTIFLORUM.

P. caule tereti; foliis alternis, amplexicaulibus, oblongo-ovalibus; pedunculis axillaribus, multifloris. Pursh, 1. p. 234.

Stem terete; leaves alternate, amplexicaule, oblong oval; peduncles axillary, many flowered.

Sp. pl. 2. p. 162. Mich. 1. p. 202.

Leaves large, glabrous, acute, sometimes a little ovate, many nerved (7). *Peduncles* long.

Grows among the mountains, and in the upper country of Carolina and Georgia.

Flowers May—July.

3. PUBESCENS.

P. caule teretiusculo, sulcato; foliis alternis, amplexicaulibus, ovatis, subtus pubescentibus; pedunculis axillaribus, subbifloris. Pursh, 1. p. 234.

Stem nearly terete, slightly furrowed; leaves alternate, amplexicaule, ovate, pubescent underneath; peduncles axillary, generally 2 flowered.

Convallaria pubescens, Muhl. Cat.

Leaves 5—7 nerved, 3 more conspicuous than the rest. *Peduncles* short. *Flowers* small.

Grows on rocks near water, from New-England to Carolina. Pursh.

Flowers May—June.

SMILACINA. Desfontaines in Annal. Mus. Hist. Nat. 9. p. 51.

Corolla infera, 6-partita, patens. *Filamenta* divergentia, laciniarum basi infixa. *Bacca* globosa, 3-locularis. *Flores* terminales paniculati, s, umbellati.

Corolla inferior, 6 parted, expanding. *Filaments* diverging, inserted at the base of the segments of the corolla. *Berry* globose, 3 celled. *Flowers* terminal, panicled or umbelled.

1. UMBELLATA.

S. foliis radicalibus oblongo-ovalibus, margine et carina ciliatis; scapo pubescente; umbella terminali; pedicellis bracteatis. Pursh, 1. p. 232.

Radical leaves oblong oval, with the margin and keel ciliate; scape pubescent; umbel terminal; pedicels bracteate.

Convallaria umbellulata, Mich. 1. p. 202.

Root creeping, somewhat tuberous. *Leaves* embracing the base of the stem, large, many nerved, tapering to the base. *Scape* about a foot high. *Umbel* small, terminal.

Grows in the mountains of Carolina. Dr. Macbride.

Flowers May—August.

2. RACEMOSA.

S. caule folioso; foliis alternis, sessilibus, oblongo-ovalibus, acuminatis, nervosis, pubescentibus; floribus terminalibus racemoso-paniculatis. Pursh, 1. p. 234.

Stem leafy; leaves alternate, sessile, oblong oval, acuminate, nerved, pubescent; flowers in terminal, racemose panicles.

Convallaria racemosa, Sp. pl. 2. p. 163. Walt. p. 122. Mich. 1. p. 202.

Stem 12—18 inches high, slightly geniculate. *Leaves* many nerved, with three more conspicuous than the rest. *Flowers* small, crowded on the racemes, pale white.

Common in the upper country. Athens; Mr. Green. Found in St. Stephens, by Dr. Macbride.

Flowers June—July.

CONVALLARIA. GEN. PL. 575. Desfontaines.

Corolla infera, 6-fida, campanulata. *Stamina* corolla breviora, ad basin inserta. *Bacca* globosa, 3-locularis, loculis 1—2 spermis. *Scapus* racemosus.

Corolla inferior, 6-cleft, campanulate. *Stamens* shorter than the corolla, inserted into their base. *Berry* globose, 3 celled, cells 1---2 seeded. *Scape* racemose.

1. MAJALIS.

C. scapo nudo, lævi; foliis ovatis. Sp. pl. 2. p. 150.	Scape naked, smooth; leaves ovate.

Pursh, 1. p. 232. Mich. 1. p. 201.

Flowers nodding on the spike, a little campanulate, white, fragrant.
Grows on the highest mountains of Carolina.
Flowers May.

HYPOXIS. GEN. PL. 565.

Spatha 2 valvis. *Corolla* 6-partita, persistens, supera. *Capsula* elongata, basi angustior. *Semina* subrotunda, nuda.	*Spathe* 2 valved. *Corolla* 6 parted, persistent, superior. *Capsule* long, narrowed at base. *Seeds* nearly round, naked.

1. ERECTA.

H. pilosa; scapo subquadrifloro, foliis lineari-subulatis breviore; pedunculis flore duplo longioribus. Sp. pl. 2. p. 106.	Hairy; scape generally 4 flowered, shorter than the linear subulate leaves; peduncles twice as long as the flower.

Walt. p. 121. Pursh, 1. p. 224.
H. Carolinensis, Mich. 1. p. 188.
H. graminea? Pursh, 1. p. 224.

Root a small solid bulb. *Leaves* all radical, subulate, entire, channelled, hairy, 3 nerved, slightly dotted, 3--6 inches long, 2 lines wide. *Scape* 2--4 inches long, 1—4 flowered, slender, somewhat compressed, hairy. *Peduncles* half an inch long, with a subulate stipule at base. *Petals* expanding, yellow on the inner surface, green on the outer, twice as long as the germ. *Filaments* unequal, 3 half as long as the corolla, 3 shorter. *Anthers* incumbent. *Style* short, somewhat conic. *Stigma* glandular, placed along the sides of the style. *Capsule* 3 celled, 3 valved. *Seeds* numerous in each cell, ovate, attached to a central receptacle.

As the flowers begin to expand as soon as they rise to the surface of the earth, the plant has probably in this state been taken for a distinct species, and formed the H. sessilis. Dill. Hort. Elth. t. [illegible]. f. 387.

Grows in close soils, very common.
Flowers March—April.

I have lately found a variety in a very rich flat soil on the margin of the Ogeechee, in which the bulbs were nearly an inch in diameter, the scape a foot high, and umbelliferous; yet size appeared to be its only distinction.

2. **FILIFOLIA.** E.

H. foliis subtriquetro-filiformibus, pilosis ; scapis plerumque bifloris. E.	Leaves filiform, somewhat 3 angled, hairy ; scape generally 2 flowered.

Leaves 6—10 inches long, scarcely larger than a thread, very hairy, slightly furrowed on the inner side. *Scape* 6—8 inches long, 1—3 flowered, commonly bearing but 2. *Peduncles* nearly an inch long. *Stamens* proportionally shorter than in the preceding species. *Stigmas* 3, nearly acute, glandular.

Grows in very sandy soils ; near Ogeechee ferry ; Cumberland Island ; Mr. Lyon. Louisville, Georgia ; Mr. Jackson.

Flowers March—April.

3. **JUNCEA.** Smith.

H. foliis canaliculatis, pilosis, integerrimis : scapis unifloris. Sp. pl. 2. p. 110.	Leaves channelled, hairy, very entire ; scapes one flowered.

Pursh, 1. p. 224.

This species is said to grow in the bogs of Carolina, and to have been introduced into England by Mr. Fraser. As it is cultivated in the garden at Kew and has therefore been seen in a living state, the high authority of Sir J. E. Smith must give it a place among our species. I have not myself seen any species strictly one flowered, but it is not rare to see plants of the H. erecta having but one flower.

ORNITHOGALUM. GEN. PL. 566.

Corolla 6-petala, erecta, persistens, supra medium patens. *Filamenta* basi dilatata *Capsula* subrotunda, angulata, 3 locularis. *Semina* subrotunda, nuda.	*Corolla* 6 petalled, erect, persistent, expanding near the summit. *Filaments* dilated at base. *Capsule* nearly round, angled, 3 celled. *Seeds* nearly round, naked.

1. **CROCEUM.**

O ? floribus racemosis ; filamentis subulatis ; pedunculis flore duplo lon-	Flowers in racemes ; filaments subulate ; peduncles twice as long as

gioribus; bracteis brevibus; foliis linearibus, glabris. E.

the flower; bracteas short; leaves linear, glabrous.

Phalangium croceum, Mich. 1. p. 196. Pursh, 1. p. 226.

Root bulbous. *Leaves* 12—18 inches long, linear, nerved, flat. *Scape* shorter? than the leaves, terete, glabrous. *Flowers* in a terminal, loose raceme. *Peduncles* about an inch long, the upper ones frequently by pairs. *Bracteas* ovate, short, not one fourth of the length of the peduncle. *Petals* oval, obtuse, white? *Stamens* shorter than the petals. *Germ* superior. *Style* very short, simple. *Stigma* obtuse. (*Seed* nearly globose, black, smooth, shining. Mich.)

From specimens sent from Louisville, Georgia, by Mr. Jackson.
Flowers

The genus of this plant is perhaps doubtful. Yet from its bulbous root and rounded seed, it would appear, notwithstanding its subulate filaments, to belong to Ornithogalum rather than Phalangium.

ALETRIS. GEN. PL. 579.

Corolla subcampanulata, rugosa. *Filamenta* laciniarum basi inserta. *Capsula* corolla marcida vestita, 3 locularis, polysperma.

Corolla somewhat campanulate, rugose. *Filaments* inserted into the base of the segments. *Capsule* clothed with the withering corolla, 3 celled, many seeded.

1. FARINOSA.

A. floribus pedicellatis, oblongo-tubulosis; corolla marcida læviuscula.

Flowers pedicellate, oblong, tubular; the decaying corolla nearly smooth.

Sp. pl. 2. p. 183. Walt. p. 121.
A. alba. Mich. 1. p. 189. Pursh, 1. p. 225.

Root tuberous, perennial. *Stem* 0. *Leaves* all radical, expanding, oblong lanceolate, acute, entire, membranaceous, glabrous, perennial? 3—5 inches long, 5—8 lines wide. *Flowers* in a spike, not crowded. *Scape* 2—2½ feet high, terete, furrowed, glabrous, slightly viscid, furnished with a few small, subulate scales. *Peduncles* scarcely more than the attenuated base of the flower. *Corolla* white, rough, as if sprinkled with coarse meal. *Stamens* and *styles* very short. *Anthers* sagittate. *Seeds* small, oblong, attached to a central receptacle.

Grows in damp pine barrens. Common.
Flowers May—June. *Star-grass.*

2. Aurea. Walt.

A. floribus subsessilibus, breviter tubulosis, subcampanulatis ; corolla marcida rugosa, scaberrima.

Flowers nearly sessile, somewhat campanulate, with short tubes ; the decaying corolla rugose, very scabrous.

Walt. p. 121. Mich. 1. p. 190. Pursh, 1. p. 225.

I have used the characters of Michaux for these two species without being satisfied with them. Except in the colour and figure of the corolla, there is no difference which I have been able to discover. The flowers of both species are attached to the scape, by the attenuated base of the corolla, varying perhaps as much in individuals as in plants, and even in roughness they do not differ materially. The "Statio alia" and "tempus diversum florescentiæ" of Walter, do not strictly apply, for I have seen them mingled in great profusion in the same pine barren, and flowering together : but I have seen the A. aurea, in Bryan county, Georgia, growing in very dry oak land, a situation in which the A. farinosa is rarely if ever found.

Grows commonly in damp pine barrens.

Flowers May—June.

Star-grass, (so called from the disposition of the radical leaves.) The root of both these plants is a harsh bitter, and is often given, infused in vinegar, with success in intermittents attended with dropsical swellings. When given in sufficient quantity it acts as a purge.

ASPARAGUS. Gen. pl. 573.

Corolla infera, 6 partita, erecta, laciniis 3 interioribus apice reflexis. *Bacca* 3-locularis, polysperma.

Corolla inferior, 6 parted, erect, the 3 interior segments reflected at the summit. *Berry* 3 celled, many seeded.

1. Officinalis.

A. caule herbaceo, inermi, erecto, tereti ; foliis setaceis, mollibus ; stipulis subsolitariis. Smith, Flor. Brit. 1. p. 369.

Stem herbaceous, unarmed, erect, terete ; leaves setaceous, soft ; stipules generally solitary.

Sp. pl. 2. p. 150. Pursh, 1. p. 235.

Root herbaceous, creeping, throwing forth a profusion of thick, succulent fibres. *Stem* herbaceous, 4—6 feet high. *Leaves* in fascicles, 3—5. *Peduncles* by pairs, one flowered, pendulous, jointed. *Corolla* campanulate, the interior petals the longest. Linn. *Flowers* dioicous. Willd.

This fine vegetable, a native originally of Europe, is now naturalized in our country. It grows freely around enclosures and in pastures where the seed is deposited by birds.

Grows in most soils, preferring those which are moderately dry.

Flowers through the summer.

YUCCA. Gen. pl. 580.

Corolla campanulato-patens. *Stylus* nullus. *Capsula* 3-locularis.	*Corolla* campanulate, expanding. *Style* 0. *Capsule* 3 celled.

1. Filamentosa.

Y. acaulis ; foliis lanceolatis, integerrimis, margine filamentosis ; stigmatibus recurvato-patentibus. Pursh, 1. p. 227.	Stemless ; leaves lanceolate, entire, with the margin filamentose ; stigmas recurved, expanding.

Sp. pl. 2. p. 184. Walt. p. 124. Mich. 2. p. 196.

Perennial ; producing its leaves almost from the surface of the earth. *Leaves* 1—2 feet long, 1½ inch wide, acute, but not rigid, nor terminating in a spine ; the margin serrulate and bearing long threads, that appear to detach themselves from its surface. *Scape* 7—8 feet high, terminating in a long panicle of white flowers.

Grows in loose, rich soils, not confined to the sea coast. The leaves of this plant twisted and tied together are used for strings, ropes, and even cables for small boats. It appears to possess the strongest fibres of any vegetable whatever. and if it can be raised with facility may form a valuable article in domestic œconomy.

Flowers August. *Silk grass. Bear grass.*

The root is substituted for soap in washing woollens.

2. Gloriosa.

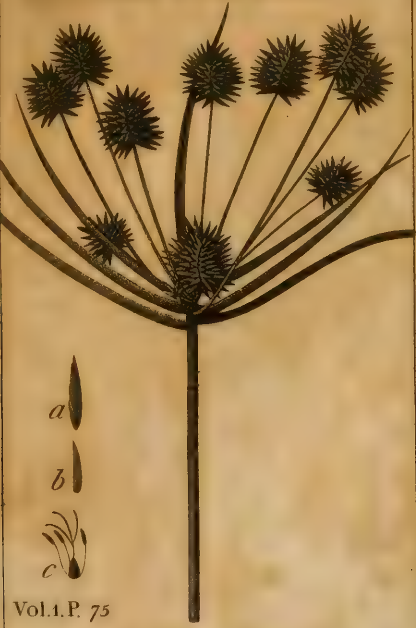
Y. caulescens ; foliis lanceolatis, plicatis, integerrimis ; petalis lanceolatis. Pursh, 1. p. 228.	Bearing a stem ; leaves lanceolate, plaited, very entire ; petals lanceolate.

Sp. pl. 2. p. 183. Walt. p. 124. Mich. 1. p. 196.

Pl.III.

No 1.

Mariscus Echinatus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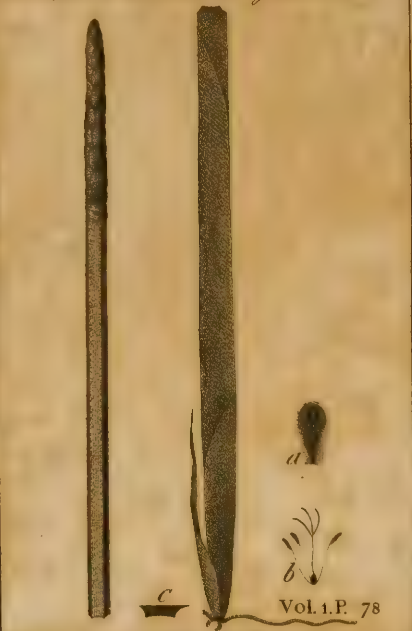
2.

Scirpus Quadrangulatus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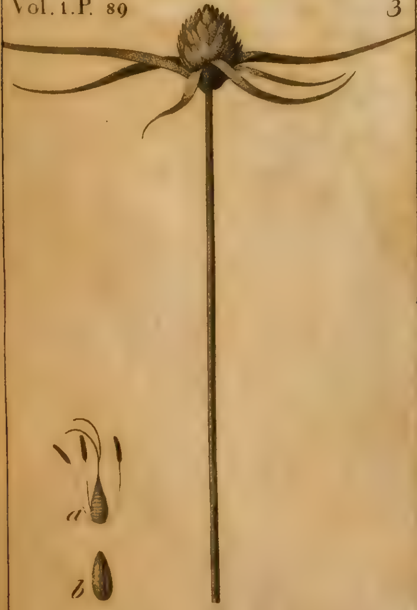

Dichromena Leucocephala

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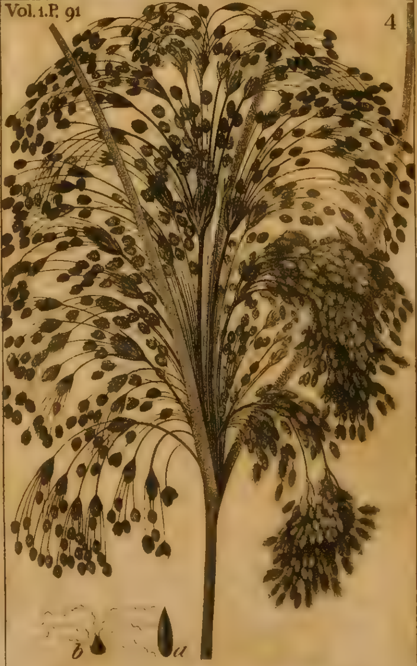
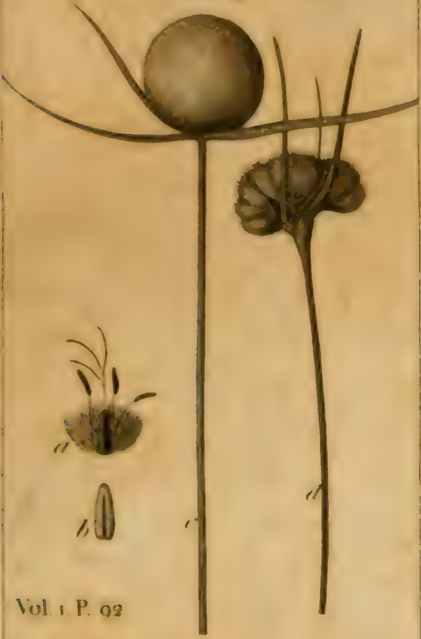


Trichophorum Cyperinum

Pl. IV.

No. 1

Eriophorum Virginicum



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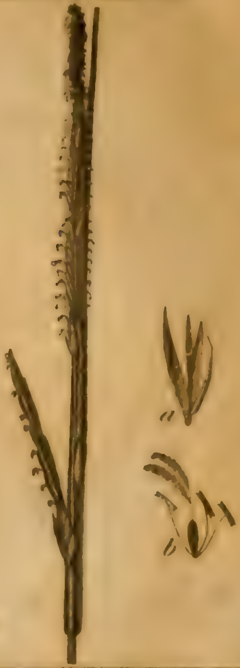
Spartina Glabra



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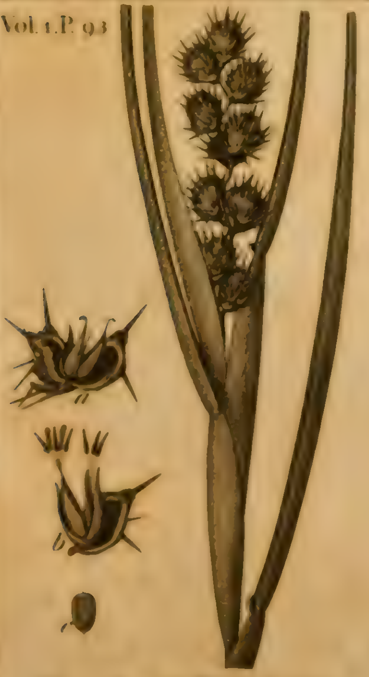

Cenchrus Tribuloides

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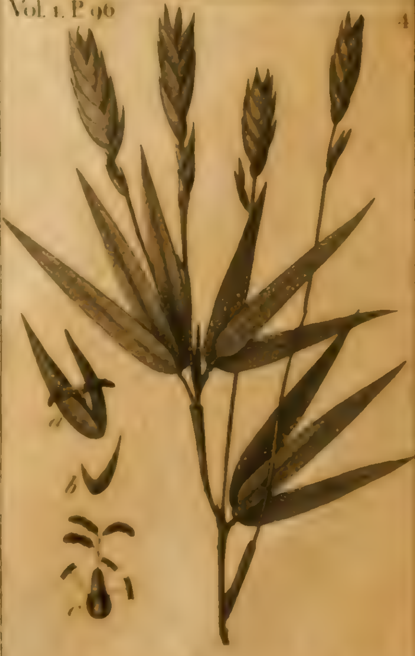

Arundinaria Macrosperma

Root very thick. *Stem* frutescent, thick, simple, erect, 2—4 feet high, succulent, roughened below with the imbricate bases of decayed leaves. *Leaves* alternate, crowded, expanding, long, lanceolate, rigid, very acute, thick, somewhat succulent, with the margins very entire. *Flowers* in a large, terminal, pyramidal panicle 2—3 feet long, composed of simple racemes, 4—7 flowers on the lower racemes; pedicels generally about an inch long, with 2 stipules at the base. *Calyx* 0. *Corolla* 6 petalled; petals lanceolate, acute, white, sparingly ciliate. *Stamens* persistent. *Filaments* half as long as the corolla, thick, compressed, pubescent. *Anthers* sagittate, incumbent. *Germ* superior. *Stigmas* 3, concave, 2 cleft, obtuse. *Capsule* oblong, glabrous, pulpy. *Seeds* in 2 rows in each valve.

Grows on the margin of the ocean, on the loose sand.

Flowers May—August.

3. DRACONIS?

Y. caulescens, ramosa: foliis lanceolatis, crenulatis, strictis, veteribus nutantibus. Sp. pl. 2. p. 184.	Bearing a stem, branching; leaves lanceolate, crenulate, strict, when old nodding.

Y. Aloifolia, Walt. p. 124. Mich. 1. p. 196. Pursh, 1 p. 228.

A large shrub, sometimes 10—12 feet high, when old becoming naked at the base: in many respects similar to the preceding, but the leaves are more rigid, the terminal spine (if it may be so called) stronger, and the margins rigid and roughened, (crenulate), the young leaves are erect and expanding, the old ones sometimes bend about the middle, as if unable to support the weight of their summits, but generally droop and point to the earth before they decay.

Grows along the sea shore, frequently mingled with the preceding species; both are ornamental plants, and have been tried for hedges, but they become too soon naked at the base.

Flowers May—August.

4. RECURVIFOLIA. Salisbury.

Y. caulescens; foliis lineari-lanceolatis, recurvo-deflexis, margine raro filamentosis; petalis interioribus latioribus. Pursh, 1. p. 228.	Bearing a stem; leaves linear lanceolate, recurved, deflected, with the margin sometimes filamentose; the interior petals wider than the exterior.

Stem about 3 feet high. *Flowers*, as in all our species, white, tinged occasionally with green and purple.

Grows on the sandy shores of Georgia.

Flowers July—August.

AGAVE. Gen. pl. 582.

Corolla supera, 6-partita, erecta. *Filamenta* corolla longiora, erecta. *Antheræ* versatiles.	*Corolla* superior, 6 parted, erect. *Filaments* longer than the corolla, erect. *Anthers* versatile.

1. Virginica.

A. acaulis, herbacea ; foliis cartilagineo-serratis ; scapo simplicissimo. Pers. 1. p. 380.	Stemless, herbaceous ; leaves with cartilaginous serratures ; scape simple.

Sp. pl. 2. p. 193. Walt. p. 121. Mich. 1. p. 187. Pursh, 1. p. 226.

Root perennial, tuberous, præmorse. Radical *leaves* long, lanceolate acute, very smooth, succulent ; stem leaves semiamplexicaule, acute, resembling scales. *Scape* 4—6 feet high, terete, glabrous. *Flowers* sessile. *Calyx* 0. *Corolla* fragrant, of an obscure yellow colour, tubular, furrowed ; segments shorter than the tube, acute. *Filaments* spotted, twice as long as the corolla, inserted into its base. *Style* terete, shorter than the filaments, spotted. *Capsule* globular, slightly 3 furrowed, 3 celled, 3 valved. *Seeds* numerous, compressed, angular, 2 rowed in each cell, attached to a central receptacle.

Grows in pine barrens.

Flowers July. *Virginian Agave—Rattle Snake's Master.*
Thick-leaved Snake root.

The root is bitter. In some neighborhoods it is given in tincture as a remedy for flatulent colick, and as such seems deserving of notice.

CONOSTYLIS. Brown.

Corolla 6-fida, persistens. *Antheræ* erectæ. *Stylus* conicus. *Stigma* simplex. *Capsula* apice libera, dehiscens, 3-locularis, polysperma.	*Corolla* 6 cleft, persistent. *Anthers* erect. *Style* conic. *Stigma* simple. *Capsule* free at the summit, gaping, 3 celled, many seeded.

1. AMERICANA. Pursh.

C. corollis intus lanatis; scapis corymboso-paniculatis; foliis ensiformibus glaucis; filamentis æqualibus. Pursh, 1. p. 224.	Corolla woolly within; scapes corymbose paniculate; leaves sword shaped, glaucous; filaments equal.

Root fibrous, creeping. Radical *leaves* shorter than the scape, narrow, acute, glabrous. *Scape* terete, erect, tomentose, furnished with 1 or 2 short leaves. *Flowers* in the corymb crowded. Segments of the *corolla* oblong, acute, glabrous and yellow near the summit, tomentose or woolly near the base. *Filaments* 6, glabrous, nearly as long as the corolla. *Germ* nearly round, glabrous. *Style* subulate, divisible into 3, as long as the filaments. *Stigma* simple. Pursh.

Grows in boggy soils, in the pine barrens of New-Jersey and Carolina. Pursh.

Flowers July.

ACORUS. GEN. PL.

Spadix cylindricus, tectus flosculis. *Corollæ* 6-petalæ, nudæ. *Stylus* 0. *Capsula* 3-locularis.	*Spadix* cylindrical, covered with florets. *Corolla* 6 petalled, naked. *Style* 0. *Capsule* 3 celled.

1. CALAMUS.

A. scapi mucrone longissimo, foliaceo. Sp. pl. 2. p. 199.	The summit of the scape long, leaflike.

Walt. p. 124. Mich. 1. p. 194. Pursh. 1. p. 233.

Root tuberous, perennial. *Leaves* sword shaped, very acute, ancipitous, glabrous, entire, with the midrib prominent. *Scape* about a foot high, 3 angled, concave on one side, with the summit flattened and resembling the leaves. *Flowers* on a cylindrical spadix, 2—3 inches long, produced near the summit of the scape. *Petals* ovate, obtuse, short, pale yellow. *Filaments* longer than the petals. *Anthers* erect. The *stamens* rise and discharge the pollen by turns, not at the same time, *Germ* thick, superior. *Stigma* obtuse, like a glandular point. *Seeds* many in each cell.

Grows in wet places, around ponds, &c. near settlements; naturalized but scarcely indigenous.

Flowers April. *Calamus.*

The root is a grateful aromatic, and is used as a remedy for flatulency. A habit of chewing it has been known to impair seriously the digestive faculties.

ORONTIUM. GEN. PL. 587.

Spadix cylindricus, tectus flosculis. *Corolla* 6-petala, nuda. *Stylus* nullus. *Folliculi* 1-spermi.	*Spadix* cylindrical, covered with florets. *Corolla* 6 petalled, naked. *Style* 0. *Follicles* 1 seeded.

1. AQUATICUM.

O. foliis lanceolato-ovatis. Sp. pl 2 p. 199.	Leaves lanceolate ovate.

Mich. 1. p. 194. Pursh, 1. p. 235.
Pothos ovata, Walt. p 224.

Root perennial. *Stem* 0. ***Leaves*** radical, annual, very entire, glabrous, membranaceous, pale, almost glaucous on the under side, obscurely nerved, and acute as if mucronate. *Spathe* short, clothing the base of the mature spadix. *Spadix* nearly 2 feet long, erect and assurgent, green at base, tinged with purple in the middle, very white at the summit. *Petals* small, yellow, persistent, appressed to the germ. *Filaments* shorter than the corolla. *Anthers* oval, incumbent, yellow. *Germ* superior, angled, truncate. *Stigma* very minute, concave in the centre. *Follicle ?* globular, fleshy. *Seed* oval, glabrous, attached to the summit ? of the follicle.

The pericarp does not (I believe) open, but falls with its enclosed seed as the spadix decays.

Grows in bogs; very common.

Flowers March—April.

JUNCUS. GEN. PL. 590.

Calyx 6-phyllus, bibracteatus, persistens. *Corolla* 0. *Stigmata* 3. *Capsula* 1-locularis, 3-valvis. *Semina* plurima.	*Calyx* 6 leaved, with 2 bracteas at base, persistent. *Corolla* 0. *Stigmas* 3. *Capsule* 1 celled, 3 valved. *Seeds* numerous.
* *Culmis nudis.*	* *Stem naked.*

1. ACUTUS.

J. culmo nudo, tereti, mucronato; panicula terminali; involucro diphyl-	Stem naked. terete, mucronate; panicle terminal; involucrum 2 leav-

lo, spinoso; capsulis subrotundis, mucronatis. Smith. Fl. Brit. 1. p. 324.	ed, spiny; capsules nearly globular, mucronate.

Sp. pl 2 p. 204 Pursh, 1. p. 235.

Roots perennial, cespitose, forming very large tufts. *Stem* 2—3 feet high, without leaves, hard, rigid, with a withering sheath at base; the stems at base unite in fascicles that are somewhat distichous. *Flowers* in panicles, 2—3 inches long, that appear lateral, but are really terminal; the stem dividing into a two leaved involucrum, the exterior longer, the interior shorter than the panicle, both very acute, pungent. Leaves of the *calyx* lanceolate, acute, rufous, with the margins membranaceous, the 3 exterior longer, acuminate, with the point reflected. *Stamens* very short. *Germ* superior. *Style* longer than the stamens, 3 cleft. *Stigmas* subulate, glandular. *Capsule* somewhat obovate, obtusely 3 angled, pointed with the style. *Seed* angular.

Grows in brackish marshes, where it covers extensive bodies of land.

Flowers April. *Black Rush.*

2. EFFUSUS.

J. culmo nudo, stricto; panicula laterali, effusa; floribus oblongis. Sp. pl. 2. p. 205.	Stem naked, strict; panicle lateral, effused; flowers oblong.

Walt. p. 124. Pursh, 1. p. 236.

Root fibrous, perennial, cespitose, forming very large tufts. *Stem* erect, 3 feet high, terete, soft, acute but not rigid, with a persistent mucronate sheath enveloping the base. *Flowers* in a dense, compound panicle 1—3 inches long. Leaves af the *calyx* lanceolate, acute, equal, with the midrib green, the margins white, membranaceous. *Stamens* shorter than the calyx. *Style* very short, 3 cleft. *Stigmas* glandular, longer than the calyx. *Capsule* 3 angled, turgid. *Seeds* oblong, oblique, acute at each end.

Grows in wet soils; occupies and almost covers rice fields as soon as they are thrown out of cultivation.

Flowers April—May. *Soft rush—Common rush.*

3. SETACEUS. Rostock.

J. culmo nudo, filiformi, nutante; umbella laterali, composita, paucifllo-	Stem naked, filiform, nodding; umbel lateral, compound, few flowered;

ra; pedunculis multifloris; petalis subulatis. Pers. 1. p. 383.	peduncles many flowered; petals subulate.

J. filiformis, Walt. p. 124.
– ————, Mich. 1. p. 191.

Root creeping, perennial, forming small tufts. *Stem* filiform, 2—3 feet high, terete, glabrous, generally leaning or bending, as if too weak to support themselves, scarcely nodding. *Flowers* in a small lateral panicle, at some distance below the summit of the stem. Leaves of the *calyx* ovate, lanceolate, very acute, the 3 outer leaves longer than the interior.

Grows in ditches and boggy grounds; not very rare. It has been separated by Rostock from the European filiformis, with which by preceding writers it had been confounded. It has however been badly named.

Flowers June—July.

** *Culmis foliosis.*	** *Stem leafy.*

4. TENUIS.

J. culmo folioso, simplice, teretiusculo; foliis canaliculatis; corymbo terminali, dichotomo, bracteis breviore; capsula oblonga, obtusa, petalis breviore.	Stem leafy, simple, terete; leaves channelled; corymb terminal, dichotomous, shorter than the bracteas; capsule oblong, obtuse, shorter than the petals.

Pers. 1. p. 385. Sp. pl. 2. p. 214.
J. bicornis, Mich 1. p. 191. Pursh, 1. p. 236.

Root perennial, cespitose, forming small tufts. *Stem* about a foot high, frequently naked. Radical *leaves* shorter than the stem, cauline leaves longer, all linear subulate, concave, very acute. *Stipules* membranaceous, 1—2 lines long, bifid. *Flowers* in the panicle solitary, sessile. Two lower leaves of the *involucrum* much longer than the panicle. Leaves of the *calyx* linear lanceolate, very acute, the 3 exterior a little longer than the interior. *Stamens* 6.

Grows in wet pastures; very common; remarkable for the strength of its fibre.

Flowers April—May.

5. DICHOTOMUS. E.

J. caule tereti, plerumque nudo; foliis subtere-	Stem terete, generally naked; leaves nearly te-

tibus, latere interiore canaliculatis; panicula dichotoma: floribus solitariis, sessilibus. E.

rete, channelled on the inner side; panicle dichotomous; flowers solitary, sessile.

J. bufonius, Walt. p. 124. Mich. 1. p. 191.

Root perennial, forming very small tufts. *Stem* 1—2 feet high, glabrous, naked? *Leaves* filiform, not nodose, shorter than the stem and sheathing its base. *Panicle* dichotomous, with the branches unequal, one flower always in the fork. *Flowers* always solitary, axillary, alternate and terminal. One leaf of the *involucrum* sometimes longer than the panicle, the other much shorter. Leaves of the *calyx* very acute, nearly equal. *Stamens* 6. *Capsule* oval, nearly globose, when mature as long as the calyx.

Grows in wet pastures, and close, stiff soils; very common.

Flowers April—May.

6. BUFONIUS.

J. culmo dichotomo; foliis angulatis; floribus solitariis, sessilibus. Sp. pl. 2. p. 214.

Stem dichotomous; leaves angled; flowers solitary, sessile.

Pursh, 1. p. 238.

Root fibrous, annual, forming small tufts. *Stem* 3—6 inches high, terete, leafy, divided towards the summit. *Leaves* subulate, acute, concave, about as long as the stem, with a short sheath at base. *Flowers* in a terminal panicle, generally solitary, one in each division of the stem, at the summit frequently by pairs. Three exterior leaves of the *calyx* longer than the interior, all very acute, membranaceous, with only the midrib green. *Stamens* 6. *Capsule* oblong, shorter than the calyx.

This species is easily distinguished from the preceding by its humble size, its leafy stem, its leaves which though somewhat angled, are subulate, not terete, and its long membranaceous calyx. Michaux may have seen it, but his description applies so exactly to the J. dichotomus, which is diffused over every part of the country, that I cannot hesitate in referring his J. bufonius to that species.

Grows around Charleston. Rantowles, Stono river.

Flowers March—May.

7. BIFLORUS. E.

J. culmo tripedali, tereti; foliis linearibus, pla-

Stem 3 feet high, terete; leaves linear, flat;

nis; paniculâ decomposita, elongata; glomerulis bifloris. E.

panicle decompound, long; fascicles 2-flowered.

Root bulbous or tuberous, perennial. *Stem* terete, frequently furrowed on one side, leafy, glabrous. *Leaves* about a foot long, somewhat rigid, erect, acute, sheathing at base. *Stipule* short, membranaceous. *Panicle* 6- 8 inches long; fascicles terminal, and in each division of the panicle. *Involucrum* shorter than the panicle. Leaves of the *calyx* lanceolate, green along the midrib, ferruginous on the sides, the 3 interior shorter than the exterior, and membranous along the margins. *Stamens* 3. *Capsule* obovate, truncate, a little shorter than the calyx.

Fascicles containing 3 flowers sometimes occur.

Grows in ditches, around ponds, &c. 10 miles from Savannah, on the road to Augusta. Near Charleston.

Flowers May--July.

8. Aristatus? Mich.

J. radice bulbosa; culmo erecto, compresso; foliis angustis, subcanaliculatis; panicula composita; floribus triandris; foliolis calycis exterioribus bracteisque aristatis. Mich. 1. p. 192.

Root bulbous; stem erect. compressed; leaves narrow, slightly channelled; panicle compound; flowers triandrous; exterior leaves of the calyx and the bracteas awned.

Pursh, 1. p. 237.
J. triglumis, Walt. p 124.
J. marginatus, Muhl. Cat.

Stem 2--3 feet high, a little compressed, terminating at base in a small solid bulb or tuber. *Leaves* flat, nerved, glabrous, with a short sheath at base *Flowers* in a terminal panicle; the fascicles 3--5 flowered. The exterior leaves of the *calyx* shorter than the exterior. *Capsule* obovate.

Grows in damp soils. Common.

Flowers May—June.

9. Repens. Mich.

J. repens; culmo geniculato, ramoso; foliis linearibus, planis; fascicu-

Creeping; stem geniculate, branching; leaves linear, flat; fascicles lat-

lis lateralibus terminalibusque; floribus 3-andris. E.	eral and terminal; flowers triandrous.

Mich. 1. p. 191.

Creeping, shooting up at short intervals small tufts. *Stem* 6—10 inches high, compressed, glabrous, leafy. *Leaves* alternate, opposite or crowded at the joints, acute, glabrous, with a sheath at base, shorter than the joints. *Stipules* ovate, membranaceous. *Flowers* sessile, in fascicles 5—10 flowered. Leaves of the *calyx* subulate, carinate, very acute, the interior nearly twice as long as the exterior. *Stamens* 3, longer than the calyx. *Stigmas* shorter than the stamens. *Capsule* oblong, obtuse, 3 angled.

Very different in habit from the rest of this genus.

Grows in muddy soils; very common.

Flowers May – July.

10. ACUMINATUS? Mich.

J. foliis teretibus, nodoso-articulatis; panicula decomposita, capitulis 6—9 floris; calycis foliolis subulatis, mucronatis; bracteis aristatis, calycem fere æquantibus. E.	Leaves terete, with knot-like joints; panicle decompound, heads 6—9 flowered; leaves of the calyx subulate, mucronate; bracteas awned, nearly as long as the calyx.

Mich. 1. p. 192. Pursh, 1. p. 237.
J. nodosus? Walt. p. 124.

Root perennial, cespitose. *Stem* 1—2 feet high, terete, glabrous, with regular joints like the grasses, but the intervals not nodose, like the leaves. *Leaves* few, shorter than the stem, with a short open sheath at base. *Panicle* somewhat trichotomous. Leaves of the *calyx* nearly equal, very acute, somewhat rigid, the 3 exterior slightly keeled *Bracteas* membranaceous, larger than usual. *Stamens* 3. *Capsule* 3 angled, nearly acute, as long as the calyx.

Grows in damp and wet places.

Flowers March—May.

I am not certain that this is the J. acuminatus of Michaux; it is not the J. Sylvaticus of Willdenow.

11. POLYCEPHALOS. Mich.

J. foliis gladiatis, nodoso-articulatis; panicula de-	Leaves sword shaped, with knot-like joints;

composita; capitulis multifloris; capsulis acutis, calyce longioribus. E.

panicle decompound; heads many flowered; capsules acute, longer than the calyx.

Mich. 1. p. 192. *var. a.* crassifolius. Pursh, 1. p. 237.

Perennial, large. *Stem* 3—4 feet high, terete, glabrous, compressed near the base. *Leaves* compressed, acute, thick, 6—24 inches long, with a short nodose sheath at base; heads globose, one sessile in each division of the panicle. *Bractea* mucronate. Leaves of the *calyx* very acute, nearly equal, the exterior broader than the interior. *Stamens* 3.

Michaux has confounded two very distinct plants under his J. polycephalos. I have retained his name to his first variety, though J. gladiatus would have been more characteristick.

Grows in ditches and wet places; Chatham county, Georgia.

Flowers May—June.

12. ECHINATUS? Muhl. Cat.

J. capitulis paucis, globosis, majusculis, subsessilibus, multifloris; calycis foliolis interioribus minoribus; foliis teretibus, nodoso-articulatis. E.

Heads few, globose, large, nearly sessile, many flowered; interior leaves of the calyx smallest; leaves terete, with knot-like joints.

J. polycephalos, Mich. 1. p. 192. *var. b.* tenuifolius. Pursh, 1. p. 237.

Root thick, somewhat tuberous, creeping. *Stem* about 2 feet high, terete, glabrous. *Leaves* shorter than the stem, terete, acute, nodose, with a short sheath at base. *Flowers* in a few (3—5) large, terminal heads. Leaves of the *calyx* narrow, subulate, acute, rigid. *Stamens* 3. *Capsule* 3 angled, acute, as long as the calyx.

Grows in wet soils, around ponds, back waters, &c. on some of the hunting islands very common.

Flowers May—August.

*** *Capsulis 3-spermis.*

*** *Capsules 3 seeded.*

13. CAMPESTRIS.

J. foliis planis, pilosis; spicis pedunculatis, umbellatis, intermedia sessili; calycinis foliolis mucronatis, capsula longioribus. Sp. pl. 2. p. 221.

Leaves flat, hairy; spikes peduncled, umbelled, the intermediate one sessile; leaves of the calyx mucronate, longer than the capsule.

Walt. p. 125. Mich. 1. p. 190. Pursh, 1. p. 238.

Perennial. *Stem* 12—18 inches high, terete, leafy. *Leaves* flat, acute, shorter than the stem, hairy along the margins, very hairy at the throat of the short sheath. *Umbel* simple. *Spikes* many flowered. Leaves of the *calyx* ovate, acuminate, rufous, with a membranaceous margin as long as the capsule. *Capsule* 3 angled, truncate, 3 valved, 3 seeded.

Grows near Columbia, S. Carolina; Mr. Herbemont. St. Johns; Dr. Macbride.

Flowers

CAULOPHYLLUM. Mich.

Calyx inferus, 6-phyllus. *Petala* 6, calyce opposita. *Drupa* stipitata, 1-sperma.	*Calyx* inferior, 6 leaved. *Petals* 6, opposite the calyx. *Drupe* stipitate, one seeded.

1. Thalictroides.

Mich. 1. p. 205. Pursh. 1. p. 218.
Leontice thalictroides, Sp. pl. 2. p. 149.

Plant about a foot high, glabrous, 3 parted at the summit of the stem. Lower *leaf*, when there are two (for the 3 divisions are considered as forming but one leaf, the stem resembling a petiole), generally triternate, divided into 27 leaflets, the upper biternate; leaflets ovate, acute, 2 or 3 lobed, glabrous. *Flowers* in panicles, produced from the centre of the leaves: there are frequently two panicles, with the inner one very small. *Stamens* and *style* very short. *Stigma* obtuse. *Fruit* a drupe, oval, dark blue when mature, supported by a club shaped stipes 2 to 3 lines long, of the same colour with the drupe.

Found in the mountains, in Pendleton district, by Messrs. Baker & Perry.

Flowers April.

DIPHYLLEIA. Mich.

Calyx inferus, 3-phyllus, deciduus. *Corolla* 6-petala. *Bacca* 1-locularis, 2---3 sperma.	*Calyx* inferior, 3 leaved, deciduous. *Corolla* 6 petalled. *Berry* 1 celled, 2---3 seeded.

1. Cymosa.

Mich. 1. p. 203.

Root thick, perennial. *Stem* herbaceous, erect, about a foot high. *Leaves* always 2 on each each stem, alternate, 2 lobed, peltate, lobes angled, acuminate, serrate; petiole attached to the leaf near an open sinus at its lower margin. *Flowers* in a terminal cyme. *Petals* oval, larger than the calyx. *Filaments* half as long as the petals. *Anthers* oblong, twins, the cells united by a membrane, and bursting as the membrane is loosened. *Germ* superior. *Style* very short. *Stigma* capitate. *Seeds* nearly globose. Mich.

Grows near the mountain rivulets, from Virginia to Carolina. Wrightsborough, Columbia county, Georgia.

Flowers May.

BERBERIS. Gen. pl. 595.

Calyx 6-phyllus. *Petala* 6, ad ungues glandulis 2. *Stylus* 0. *Bacca* 1-locularis, 2---4 sperma.

Calyx 6 leaved. *Petals* 6, with 2 glands on each claw. *Style* 0. *Berry* 1-celled, 2---4 seeded.

1. Canadensis.

B. ramis confertim punctatis; aculeis triplicibus; foliis simplicibus, obovatis, remote serratis; racemis brevibus, subcorymbosis; drupis vix carnosis. Pursh, 1. p. 219.

Branches thickly dotted; spines triple; leaves simple, obovate, remotely serrate; racemes short, somewhat corymbose; drupes scarcely fleshy.

Berberis vulgaris, *var.* Canadensis, Sp. pl. 1. p. 227. Walt. p. 120. Mich. 1. p. 205.

A shrub 3—5 feet high, erect, with very many branches; the young shoots yellow, the old dotted, all angular, glabrous. *Leaves* sessile, obovate, obtuse, mucronate, with spine-like serratures, cuneate at base, glabrous, by pairs on young shoots, clustered on the summits of the last years buds. *Stipules* a 3 parted spine at the base of each bud. *Racemes* short, 6—8 flowered, shooting from the summit of the old buds, at first erect, afterwards nodding. *Calyx* deciduous, leaves ovate, acute, coloured. *Petals* ovate, longer than the calyx, yellow, with 2 purple nectariferous ? glands. *Filaments* half the length of the petals. *Anthers* nearly white, attached to the sides of the filaments *Germ* superior, as long as the stamens. *Stigma* flat, wider than the germ, perforate ? in the centre. *Berry* oval, red, extremely acid.

A plant of colder climates than ours, but found along the margin of the Santee river as low down as Eutaw Springs. Dr. Macbride.

Flowers April. *Barberry.*

The irritability of the stamens of the European Barberry, as described by Sir J. E. Smith, is equally obvious in ours. If " the inner part of each filament near the bottom" be touched, the filament will immediately contract " and strike its anthers against the stigma.

Vide Introduction to Botany.

TRIGYNIA.

RUMEX. Gen. pl. 618.

Calyx 3-phyllus. *Petala* 3, conniventia. *Semen* 1. triquetrum.	*Calyx* 3 leaved. *Petals* 3, conniving. *Seed* 1, 3 angled.

1. **Sanguineus.**

R. valvulis integerrimis, unica conspicue granifera; foliis cordato-lanceolatis. Sp. pl. 2. p. 250.	Valves entire, 1 conspicuously bearing a grain; leaves cordate lanceolate.

Walt. p. 126. Pursh, 1. p. 247.

Perennial. Root *leaves* large, entire, sometimes obtuse, variegated in a singular manner by its blood red veins. *Flowers* in terminal, verticillate panicles *Calyx* small, and with the corolla persistent; after flowering the petals increase in size and close over the seed; one of the petals marked on the back with a large, globose, red grain, the other petals have smaller ones. *Styles* very short. *Seed* 3 angled.

Met with occasionally around Charleston. Rare in the low country. Said by Linnæus to have been carried to Europe from Virginia. Flowers June—July.

2. **Pulcher.**

R. valvulis dentatis; unica conspicue granifera; foliis radicalibus panduriformibus. Sp pl. 2. 254.	Valves toothed; one conspicuously toothed; radical leaves panduriform.

Root *leaves* oblong, with a sinus in each side, as in the violin. Stem *leaves* without the sinus.

An exotic, now common in the enclosures in and around Charleston. Flowers June—July.

3. **Verticillatus.**

R. valvulis integerrimis, omnibus graniferis; foliis lanceolatis; vaginis cylindricis. Sp. pl. 1. p. 250.	Valves entire, all baaring a grain; leaves lanceolate; sheaths cylindrical.

Walt. p. 226. Pursh, 1. p. 248.

Perennial. *Leaves* long lanceolate, narrow, acute, sheaths membranaceous, cylindrical, nearly half as long as the joints. *Flowers* verticillate, in long, nearly simple racemes; pedicels rather thick. Linn.

Inserted on the authority of Walter. I have not met with it in our low country.

Flowers

4. Bbitannicus.

R. valvulis integerrimis, omnibus graniferis; foliis lanceolatis, planis; vaginis obsoletis. Sp. pl. 2. p. 250.	Valves entire, each bearing a grain; leaves lanceolate, flat; sheaths obsolete.

Walt. p. 126. Mich. 1. p. 217. Pursh, 1. p. 248.

Perennial. *Stem* 2—3 feet high, branching, furrowed, tinged with red. *Leaves* large, alternate, acute, sometimes acuminate, obtuse at base; petioles 1—2 inches long. *Stipule* a membrane attached to the base of the petiole, withering. *Flowers* in a compound, terminal panicle; *sterile* and *fertile flowers* mingled in the same whorl; peduncles one half an inch long, pendulous after flowering; the fertile floret at first smaller than the sterile, but the corolla of the former enlarges as the seed matures. *Filaments* very short. *Anthers* erect. *Germ* 3 angled. *Styles* very short, expanding between the petals. *Stigmas* feathered, white. *Seeds* 3 angled, with the angles very acute.

Grows in deep swamps, along the margins of fresh water rivers; very common.

Flowers April—May.

5. Crispus.

R. valvulis integris, omnibus graniferis; foliis lanceolatis, undulatis, acutis. Sp. pl. 2. p. 251.	Valves entire, each bearing a grain; leaves lanceolate, undulate, acute.

Perennial. *Stem* 1—2 feet high, angled. Radical *leaves* long, narrow, lanceolate, acute, very much waved, and curled along the margin with a long, attenuated base. *Panicle* terminal, sparingly branched, leafy; leaves similar to those of the root but smaller. *Flowers* in whorls on pedicels, 3—4 lines long.

Originally from Europe, now entirely naturalized; very common around buildings; prefers a close, damp soil.

Flowers May—June.

6. PERSICARIOIDES.

R. valvulis dentatis, omnibus graniferis; foliis lanceolatis, undulatis, integris. Pursh, 1. p. 248.

Valves toothed, each bearing a grain; leaves lanceolate, undulate, entire.

Sp. pl. 2. 252. Walt. p. 127.

Plant 6—12 inches high, much branched. *Leaves* lanceolate, petiolate, smooth, waved, entire. Valves of the *flower* with 3 long teeth on each side, each bearing a large, pale coloured grain. Linn.

Grows in shady, wet woods, and along the banks of ditches, from Virginia to Carolina. Pursh.

Flowers July.

7. DIVARICATUS?

R. valvulis dentatis, graniferis; foliis cordato-oblongis, obtusis, pubescentibus. Sp. pl. 2. p. 253.

Valves toothed, each bearing a grain; leaves cordate oblong, obtuse, pubescent.

Plant perennial. *Stem* 1—2 feet high. *Leaves* cordate, oblong, somewhat acute, finely waved along the margins, pubescent, particularly along the veins. *Flowers* in a long, slender, leafy spike? *whorls* nearly sessile, distant. Valves of the *corolla* reticulate, with 4—5 teeth near the base; grains of unequal size, one large.

Found by Dr. Baldwin in the marshes of Savannah river, opposite the city of Savannah.

Flowers June—August.

8. ACETOSELLA.

R. floribus dioicis; foliis lanceolato-hastatis. Sp. pl. 2. p. 260.

Flowers dioicous; leaves lanceolate hastate.

Walt. p. 127? Mich. 1. p. 216. Pursh, 1. p. 249.

Root somewhat fusiform, perennial. *Stem* herbaceous, 1—2 feet high, slightly furrowed. *Leaves* entire, somewhat succulent, glabrous, sometimes ovate or lanceolate, without auricles, *on petioles* 1—3 inches long, dilated at base. *Flowers* in paniculated racemes, with fascicles 8—10 flowered, near together; in the sterile flower the *calyx* and *corolla* are lanceolate, nearly equal; the *stamens* 6, very short; and only the rudiments of a germ. In the fertile flower, the *calyx* is linear, the *corolla* larger, lanceolate, strongly veined, purple, the *styles* very short, the *stigmas* glandular, purple; the seed 3 angled, covered by the reticulate corolla.

Grows in light, sandy, poor soils; very common.

Flowers April—June.

9. HASTATULUS. Baldwin.

R. valvulis rotundato-cordatis, integris, graniferis; foliis petiolatis, oblongo-hastatis, auriculis integris, obtusis; floribus dioicis. Bald.	Valves round, cordate, entire, graniferous; leaves petiolate, oblong hastate, the auricles entire, obtuse; flowers dioicous.

Root perennial. *Stem* 1—3 feet high. In its mode of flowering, and its general habit it approaches the R acetosella. The valves enclosing the seed become red by age, and give the old pastures, which this plant often entirely engrosses, a most splendid appearance. B.

Grows in arid cultivated land in the south of Georgia and East Florida.

Flowers April.

NECTRIS. GEN. PL. 610.

Calyx 6-phyllus. *Corolla* 0. *Capsulæ* 3, uniloculares, oligospermæ, non dehiscentes.	*Calyx* 6-leaved. *Corolla* 0. *Capsules* 3, one celled, few seeded, not opening.

1. AQUATICA.

N. foliis demersis, oppositis, multipartito-linearibus, fluitantibus alternis, ellipticis, peltatis; floribus racemosis. E.	Submersed leaves, opposite, many parted, linear, the floating leaves alternate, elliptic, peltate; flowers in racemes.

Sp pl. 2. p. 249.
Nectris peltata, Pursh, 1. p. 239.
Cabomba aubletii, Mich. 1. p. 206.

Perennial *Stem* terete, about a line in diameter, purple, branching, very long Lower *leaves* opposite, near the middle generally 5 parted, towards the summits dichotomous; segments unequal, linear, obtuse; upper leaves narrow, oval or elliptic, obtuse, glabrous, floating and supporting the flowering part of the branches near the surface of the water *Flowers* axillary, solitary, near the summit of the branches, forming a terminal raceme; peduncles 1—2 inches long, pubescent? *Calyx* persistent, 3 exterior leaves obovate, 3 interior oval, longer than the exterior, all white, emarginate, on short claws, with two yellow glands near the base *Filaments* not half as long as the calyx. *Anthers* erect, white. *Germs* 3, distinct, superior, pubescent. *Styles* tapering, as long as the stamens. *Stigma* capitate, glandular. *Capsules* oblong ovate, 1 celled, pubescent, 1—3 seeded. *Seeds* oblong, somewhat rough, slightly winged, attached by the summit to the point of the capsule. I have seen 4 germs but never 2.

Grows in ditches and stagnant waters; at Ogeechee very common. Flowers May.

TRIGLOCHIN. Gen. pl. 616.

Calyx 6-phyllus. *Corolla* 0. *Stylus* 0. *Capsula* basi dehiscens.

Calyx 6 leaved. *Corolla* 0. *Style* 0. *Capsule* opening at base.

1. Triandrum. Mich.

T. foliis tereti-linearibus, scapum subæquantibus; floribus 3---4-andris. E.

Leaves terete, linear, as long as the scape; flowers with 3---4 stamens.

Mich. 1. p. 208. Pursh, 1. p. 247.

Leaves erect, smooth, acute, about 6 inches long, sheathing the base of the scape. *Scape* terete. *Flowers* numerous, on very short peduncles, generally in small clusters. *Calyx* most frequently 4 leaved, leaves small, lanceolate, membranous, deciduous. *Filaments* 0. *Anthers* sessile, 2 celled, sometimes only 1 or 2. *Germs* frequently 4, cohering. *Style* 0. *Stigma* glandular, many cleft. *Capsules* 3—4, gibbous at base, united by succulent, spongy, hollow membranes resembling false cells. *Seed* one in each cell, oblong.

This species appears to be very variable in the number of its anthers and germs.

Grows on sands overflowed by salt water.
Flowers July—August.

MELANTHIUM. Gen. pl. 618.

Calyx 0. *Corolla* 6-petalla, patens. *Filamenta* ex unguibus elongatis biglandulosis corollæ. *Capsulæ* 3, inflatæ, basi connatæ. *Semina* plura, subplana, alata.

Calyx 0. *Corolla* 6 petalled, expanding. *Filaments* arising from the long biglandular claws of the petals. *Capsules* 3, inflated, connate at base. *Seeds* numerous, generally flat, winged.

1. Virginicum.

M. panicula pyramidala; petalis ovalibus, subhastatis. planis; floribus plerumque fertilibus.—Pursh, 1. p. 240.

Panicle pyramidal; petals oval, somewhat hastate, flat; flowers generally fertile.

Sp. pl. 2. p. 266. Mich. 1. p. 251.

Stem 2—3 feet high, terete, clothed with a dense and short pubescence, leafy. *Leaves* long, linear lanceolate, flat, embracing the stem, but not sheathing. *Flowers* in a terminal panicle, crowded on the branches, polygamous, dioicous. *Petals* greenish white, becoming brown with age, bearing 2 glands near the base. *Germs* 3, superior: *Styles* 3, somewhat divaricate, persistent.

Grows in Carolina; very rare in the low country.

Flowers June—July.

2. Monoicum. Walt.

M. panicula inferne mascula, superne feminea, racemosa; petalis oblongis, planis, brevi-unguiculatis; stylis germine duplo brevioribus. Pursh, 1. p. 241.

Panicle with the lower flowers sterile, the upper fertile, and in racemes; petals oblong, flat, with short claws; styles half the length of the germ.

Walt. p. 125.

Flowers smaller than in the preceding species. Pursh.

Grows in the mountains of Virginia and Carolina.

Flowers July.

3. Hybridum. Walt.

M. panicula pubescente, racemosa; petalis orbiculatis, plicatis, longe unguiculatis; glandulis coalitis. E.

Panicle pubescent, racemose; petals orbicular, plaited, with long claws; glands united.

Walt. p. 125. Pursh, 1. p. 241.

Melanthium racemosum, Mich. 2. p. 251.

Stem 2 feet high, terete, slightly striate, leafy. *Leaves* long, linear, nearly glabrous, embracing the stem, the midrib rather distinct. *Panicle* long, composed of simple racemes. *Flowers* somewhat distant, on peduncles twice the length of the petals; sterile and fertile flowers intermingled in each panicle. *Petals* persistent, orbicular, plaited, the margins waved or repand; glands forming an emarginate circle, at the summit of the claw, with a furrow along the centre. *Stamens* as long as the petals. *Styles* expanding.

Sent from Louisville, Georgia, by Mr. Jackson. Augusta; Dr. Wray. Found also in the mountains of Carolina, by Dr. Macbride.

Flowers May—July.

VERATRUM.

Corolla 6-partita, patens; laciniis sessilibus, eglandulosis. *Stamina* receptaculo inserta. *Capsulæ* 3, polyspermæ.

Corolla 6 parted, expanding; the segments sessile, without glands. *Stamens* inserted on the receptacles. *Capsules* 3, many seeded.

1. VIRIDE.

V. foliis lato-ovalibus, plicatis; racemis paniculatis; corollæ laciniis oblongo, ovalibus, acutis.—Mich. 2. p. 249.

Leaves broad, oval, plaited; racemes panicled; segments of the corolla oblong, oval, acute.

Sp. pl. 4. p. 896. Pursh, 1. p. 242.

Plant pubescent, 3—6 feet high. Root *leaves* large. Flowers greenish yellow.

Grows along the mountain streams from Canada to Carolina.

Flowers July.

2. PARVIFLORUM. Mich.

V. foliis ovali-lanceolatis, planis, glabris; paniculis gracilibus, patentibus; petalis utrinque acutis, staminiferis.

Leaves oval, lanceolate, flat, glabrous; panicle slender, expanding; petals acute at each end, bearing the stamens.

Mich. 2. p. 250. Pursh, 1. p. 242.

Michaux, to whom we are indebted for our knowledge of this plant, remarks, that the branches of the *panicle* are filiform; the *flowers* green, on short footstalks; the *corolla* without glands; that in its foliation and habit it resembles the Veratrum, but is allied to the Melanthium by its staminiferous petals.

Grows among the highest mountains of Carolina.

Flowers July.

3. **ANGUSTIFOLIUM.** Pursh.

V. floribus dioicis; panicula simplici; petalis linearibus; foliis longissimis, linearibus, carinatis. Pursh, 1. p. 242.	Flowers dioicous; panicle simple; petals linear; leaves very long, linear, keeled.

Flowers greenish yellow. Pursh.
Grows among the mountains of Virginia and Carolina.
Flowers June.

ZIGADENUS. MICH.

Corolla hexapetala, patens; laciniis supra basin angustatam biglandulosis. *Capsula* membranacea, 3 locularis. *Semina* plurima, aptera.	*Corolla* 6 petalled, expanding; with 2 glands above the narrowed base of the segments. *Capsule* membranaceous, 3 celled. *Seeds* many, without wings.

1. **GLABERRIMUS.**

Z. scapo folioso; bracteis ovatis, acuminatis; petalis acuminatis. Pursh, 1. p. 241.	Scape leafy; bracteas ovate, acuminate; petals acuminate.

Mich. 1. p. 214.
Melanthium virginicum? Walt. p. 125.

Root tuberous, perennial. *Stem* herbaceous, erect, terete, 3—4 feet high. *Leaves* sessile, linear lanceolate, acute, glabrous, slightly channelled, 8—14 inches long, 5—6 lines wide. *Flowers* in a terminal panicle. *Calyx* 0. *Petals* equal, persistent. *Filaments* 6, as long as the corolla, dilated at base, and inserted into the petals at their junction with the germ. *Germ* superior, 3 angled. *Styles* 3, shorter than the stamens, nearly united at base. *Stigmas* simple, obtuse. *Capsule* 3 sided, with the angles obtuse, furrowed, 3 celled, 3 valved, pointed with the persistent styles. *Seeds* many (4—8) in each cell, angled, oblong, slightly furrowed, the angles slightly winged and extending a membranous summit beyond the apex of the seed.
Grows along the margins of swamps, ponds, &c.
Flowers July—September.

HELONIAS. Gen. pl. 622.

Calyx 0. *Corolla* 6-petala; petalis planis. sessilibus. *Capsula* 3-locularis, oligosperma.	*Calyx* 0. *Corolla* 6 petalled: petals flat, sessile. *Capsule* 3 celled, few seeded.

1. Erythrosperma.

H? foliis lineari-longissimis; scapo folioso; capsula abbreviata, divaricata; seminibus ovatis. Pers. 1. p. 399.	Leaves linear, very long; scape leafy; capsule shortened, divaricate; seeds ovate.

Mich. 1. p. 212. Pursh, 1. p. 242.
Melanthium lætum, Sp. pl. 2. p. 267.
Melanthium muscætoxicum, Walt. p. 125.

Root bulbous. *Stem* 2 feet high, leafy, glabrous. *Leaves* long, linear, 5—6 lines wide, obtuse, glabrous, nerved, slightly channelled, generally growing from the root, but some also from the stem, diminishing in size near the summit. *Flowers* in a terminal simple raceme. *Peduncles* longer than the flowers. *Petals* ovate, sessile, persistent. *Stamens* rather longer than the petals. *Anthers* white. *Germs* 3, superior, with the summits divaricate. *Stigmas* simple. *Capsules* 3, united at base. *Seed* ovate, covered with a fleshy integument which becomes of a bright red colour when ripe.

The structure of the capsule in this species approaches to that of Veratrum, but its seed and habit indicate another genus.

Grows in shady, rich soils.

Flowers April—May. *Red-seeded Helonias. Fly poison.*

This plant is a narcotic poison, and is employed in some families for destroying the house-fly. The bulbs are triturated and mixed with molasses or honey, and the preparation is spread upon plates and placed in parts of the house most infested. The flies are soon attracted, and the poison takes effect while they are sipping it. They are perceived to stand unsteadily, totter, and fall supine. The flies, unless swept into a fire or otherwise destroyed, revive in the course twenty-four hours.

2. Angustifolia. Mich.

H. foliis lineari-subulatis; scapo folioso; cap-	Leaves linear, subulate; scape leafy; capsule ob-

sula oblonga, apicibus appressis; seminibus linearibus. E.

long, with the summit appressed; seeds linear.

Mich. 1. p. 212. Pursh, 1. p. 242.

Root fibrous, perennial. *Stem* about 2 feet high, terete, glabrous. *Leaves* very long, linear, acute, much narrower than in the preceding species; upper leaves minute. *Flowers* in a terminal, simple raceme; peduncles longer than the flowers. *Petals* persistent. *Stamens* longer than the petals. *Capsules* 3, twice as long as the petals, 3 angled, acute, cohering to the very summit. (*Seeds* linear. Mich.)
Grows in damp soils, generally in pine barrens.
Flowers May—June.

3. ASPHODELOIDES.

H. scapo folioso; racemo oblongo, conferto; bracteis setaceis; filamentis basi latioribus, corollam æquantibus; foliis subulato-setaceis.---- Pursh, 1. p. 243.

Scape leafy; raceme oblong, crowded; bracteas setaceous; filaments wide at base, as long as the corolla; leaves subulate, setaceous.

Sp. pl. 2. p. 275.

Root bulbous? *Flowers* white, small. Pursh.
Grows on the sandy plains of New-Jersey and Carolina. Pursh.
Flowers May—June.

4. DUBIA. Mich.

H? foliis angustissime longissimeque gramineis; scapo nudo; spica gracili; floribus parvis, sessilibus. Mich. 1. p. 213.

Leaves grass-like, very long and narrow; scape naked; spike slender; flowers small, sessile.

Pursh, 1. p. 244.

Stem 2—2½ feet high. *Fruit* unknown. Mich.
Grows in sandy soils, in Georgia and Florida.
Flowers

5. GRAMINEA. Hort. Kew.

H? scapo folioso, paniculato; racemis divaricatis; foliis linearibus, canaliculatis, subtus glaucis.	Scape leafy, panicled; racemes divaricate; leaves linear, channelled, glaucous underneath.

Bot. Mag. No 1599. Pursh, 2. p. 733.

Root a small bulb. *Scape* about 2 feet high, with small, and frequently recurved branches. *Petals* oblong, acuminate. *Stamens* much shorter than the petals.

Found on the mountains of Georgia, by Mr. Lyon. Saluda mountains. Dr. Macbride

Flowers July--August.

6. DIOICA.

H? foliis lanceolatis, subcarnosis, enervibus, radicalibus spathulatis; racemis simplicibus, confertis, dioicis. E.	Leaves lanceolate, somewhat succulent, without nerves, the radical leaves spathulate; racemes simple, crowded, dioicous.

Melanthium dioicum, Walt. p. 126.
Veratrum luteum. Sp. pl. 4. p. 897.
Helonias lutea, Hort. Kew. 2. p. 330.

Root tuberous? præmorse, perennial. *Stem* herbaceous, 1—2 feet high, slightly angled, glabrous. Radical *leaves* 3—4 inches long, the stem leaves narrower, becoming almost linear, all entire, very glabrous; pedicels shorter than the flowers. *Petals* linear, obtuse, white. In the *sterile flowers* the *filaments* are longer than the corolla; *anthers* 2 lobed, affixed to the sides of the filaments, no rudiment of a germ. In the *fertile flowers* the *filaments* are short, imperfect; *germ* deeply 3 furrowed; *style* 0; *stigmas* 3, reflected; *capsules* ovate, appressed to the receptacle, 3 furrowed, 3 celled; *seeds* many in each cell, angled, acute.

The Linnæan specific name is inapplicable, as the flowers are perfectly white; when dried they become yellow.

Professor Ives, of New-Haven, has frequently used the root of this plant, which is very bitter, as a tonic, and much commends its efficacy in checking nausea and vomiting. He exhibits it in the form of infusion.

Grows in damp, poor soils; very common.

Flowers May. *Devil's bit—Blazing-star.*

The Helonias and its kindred genera, (Melanthium, Veratrum and Zigadenus), appear to me yet to require a careful examination. Instead of forming but one genus, as has lately been suggested by some European botanists, the Helonias, as now described, seems to contain the rudiments of three distinct genera. I have had no opportunity lately of examining these plants in a living state, and comparing their fruit with the accuracy that would be necessary for a new distribution; I have therefore followed the latest arrangement that has been made of them, and merely offer this hint for the consideration of those who may have better opportunities of making correct researches.

TOFIELDIA. Hudson.

Calyx 3-fidus. *Corolla* 6-petala. *Capsulæ* 3, basi junctæ, polyspermæ.	*Calyx* 3 cleft. *Corolla* 6 petalled. *Capsules* 3, united at base, many seeded.

1. Pubens. Mich.

T. caule scabro; floribus racemosis, gemmis trifloris. E.	Stem scabrous; flowers in racemes, buds 3 flowered.

T. pubescens, Pursh, 1. p. 246.
Narthecium pubens, Mich. 1. p. 209.
Melanthium racemosum, Walt. p. 126.

Root perennial, somewhat tuberous. *Stem* 1—2 feet high, simple, naked near the summit, with the peduncles covered and roughened with a glandular pubescence. *Leaves* ensiform, narrow, very acute, sometimes acuminate glabrous; the upper one very small, the lower 6—8 inches long, 3—4 lines wide. *Peduncles* as long as the flower. *Calyx* very small, 3 toothed, scabrous. *Corolla* 1 petalled? divided to the base; segments lanceolate and obovate, alternately larger, glabrous, green, purplish at the point. *Stamens* as long as the corolla, attached to its base. *Germ* superior, somewhat 3 angled, furrowed. *Styles* short, expanding. *Stigmas* capitate. *Capsule* 3 angled, with the angles rounded, 3 valved, 3 celled. *Seeds* 2 in each cell, oval, oblong.

In this species the capsules are not distinct.

Grows in wet pine barrens. Very common around the ponds and savannahs in the middle country.

Flowers July—September.

2. Glaberrima. Macbride.

T. glaberrima; floribus racemosis; gemmis approximatis, fere verticillatis, unifloris. E.	Very glabrous; flowers in racemes; buds approximate, nearly verticillate, 1 flowered.

Root thick, somewhat tuberous, perennial. *Stem* terete, 2—3 feet high, leafy near the base. *Leaves* linear, gladiate, very acute, sheathing the stem at their base. *Flowers* much more crowded than in the T. pubens, peduncles shorter, and the buds, which are one flowered, are generally collected 4 or 5 together at short intervals, surrounding the stem, though not regularly verticillate. *Calyx* small, 3 toothed. *Petals* oblong, oval, white. *Stamens* rather longer than the corolla. *Filaments* dilated. *Germ* 3 angled. *Styles* short, expanding. *Stigmas* obtuse. *Capsules* a little divaricate at the summit.

The seeds I have not been able to distinguish.

Found by Dr. Macbride, near the rivulets of the sand hills near Columbia, South-Carolina.

Flowers October.

NOLINA. MICH.

Corolla 6-partita, patens. *Styli* brevissimi. *Capsula* 3-gona, membranacea, 3-locularis. *Semina* solitaria, hinc convexo-incurva.	*Corolla* 6 parted, expanding. *Styles* very short. *Capsule* 3 angled, membranaceous, 3 celled. *Seed* solitary, convex on one side.

1. GEORGIANA.

Mich. 1. p. 208. Pursh, 1. p. 240.

Bulb very large, tunicated. *Leaves* long linear, coriaceous, dry, scabrous along the edges. *Scape* 2—3 feet high, furnished near the base with small subulate scales. *Flowers* in a spreading racemose panicle, small, white. *Stamens* shorter than the corolla. *Stigmas* recurved, obtuse. *Seed* with a hollow on the interior angle, commonly only one coming to maturity in each capsule. Mich.

I use the description of Michaux for this plant. I have seen the root and leaves but not the flower nor seed.

Grows on the driest sand hills, between Orangeburgh and Columbia, South-Carolina.

Flowers April ?

MEDEOLA.

Calyx 0. *Corolla* 6-partita, revoluta. *Bacca* 3-sperma.	*Calyx* 0. *Corolla* 6 parted. revolute. *Berry* 3 seeded.

1. VIRGINICA.

M. foliis in medio caule verticillatis, summitate ternis, lanceolatis, acumi-	Leaves verticillate around the middle of the stem, by threes at the

natis, integerrimis; pedicellis aggregatis, terminalibus. Pursh, 1. p. 244.	summit, lanceolate, acuminate, entire; pedicels clustered, terminal.

Sp. pl. 2. p. 270. Walt. p. 126. Mich 1. p. 214.

Perennial. *Stem* herbaceous, 12—15 inches high, terete, furnished at each joint near the base with small sheaths, (clothed with a deciduous wool. Mich.) *Leaves* forming a 6—8 leaved whorl above the middle of the stem, and a 3 leaved whorl at the summit; all lanceolate, acuminate, entire, 3 nerved, membranous. *Flowers* few terminal, shooting from the centre of the upper whorl. *Corolla* pale yellow. *Stamens* longer than the corolla. *Styles* expanding, longer than the stamens.

Grows in rich, shaded and moist soils, generally under beach trees.

Flowers May—July. *Virginian Medeola.*
Indian cucumber.

TRILLIUM.

Calyx 3-phyllus. *Corolla* 3-petala. *Bacca* 3-locularis.	*Calyx* 3 leaved. *Corolla* 3 petalled. *Berry* 3 celled.

1. SESSILE.

T. flore sessili, erecto; petalis lanceolatis, erectis, calyce duplo longioribus; foliis sessilibus, lato-ovalibus, acutis. Pursh, 1. p. 244.	Flower sessile, erect; petals lanceolate, erect, twice as long as the calyx; leaves sessile, wide, oval, acute.

Sp. pl. 2. p. 272. Walt. p. 126. Mich. 1. p. 215.

Root thick, solid, with rings on the circumference, which, perhaps, indicate each years growth. *Stem* herbaceous, 6—12 inches high, glabrous, spotted, with small decaying sheaths at base. *Leaves* 3 at the summit of the stem, ovate, or oval, acute, 5 nerved, the 2 exterior obsolete, curiously spotted. *Flowers* sessile on the summit of the stem. *Calyx* 3 leaved, leaves oblong, ovate, erect, glabrous, green. *Petals* spathulate, lanceolate, erect or connivent, twice as long as the calyx, dark purple. *Filaments* flat, rigid, not half as long as the calyx, dark purple. *Anthers* linear, attached to the sides of the filaments, pale purple. *Germ* superior, ovate, 3 angled. *Styles* short, expanding. *Stigma* obtuse. *Berry* glabrous, depressed, dark purple.

Grows in rich, high lands. The only species found near the sea coast.

Flowers March—April.

2. **Pusillum.** Mich.

T. foliis ovali-oblongis, obtusis, sessilibus ; pedunculo erecto ; petalis calyce vix longioribus.	Leaves oval, oblong, obtuse, sessile ; peduncle erect ; petals scarcely longer than the calyx.

Mich. 1. p. 215.
T. pumilum, Pursh, 1. p. 245.

Plant humble. *Leaves* sesile. *Petals* of a pale flesh colour. Mich.
Grows in the pine barrens of the low country of Carolina.
Flowers

3. **Erectum.**

T. pedunculo inclinato, flore nutante ; petalis ovatis, acuminatis, planis, patentibus, calyce latioribus ; foliis lato-rhomboideis, acuminatis, sessilibus. Pursh, 1. p. 245.	Peduncle inclining, flower nodding ; petals ovate, acuminate, flat, expanding, wider than the calyx ; leaves wide, rhomboidal, acuminate, sessile.

Sp. pl. 2 p. 271
T. rhomboideum, *var. a*, *b.* Mich. 1. p. 215.

Peduncles 2 - 3 inches long, nearly erect.
Var. a. antropurpureum ; with flowers large ; petals dark purple ;
b. album ; with flowers about half the size of the preceding ; petals white, obtuse, acuminate. Mich. Berries dark purple.
Grows in boggy soils, on the monntains.
Flowers May.

4. **Grandiflorum.** Salisbury.

T. pedunculo erecto ; petalis calyce longioribus, basi conniventibus. Hort. Kew. 2. p. 329.	Peduncle erect ; petals longer than the calyx, connivent at base.

Pursh, 1. p. 246.
T. rhomboideum, *var. b. ?* grandiflorum, Mich. 1. p. 216.

Flower slightly nodding. *Petals* much larger than the calyx, white. *Berries* dark purple. *Leaves* rhomboidal, acute.
Grows in rocky, rich, damp soils, in the mountains.
Flowers May.

5. **ERYTHROCARPUM.** Mich.

T. pedunculo reclinato; petalis ovali-lanceolatis, acutis, recurvatis, calyce subduplo-longioribus; foliis ovatis, acuminatis, basi rotundatis, abrupte attenuatis.	Peduncle declining; petals oval lanceolate, acute, recurved, twice as long as the calyx; leaves ovate, acuminate, rounded at base, abruptly attenuate.

Mich. 1. p. 216.
T. pictum, Pursh, 1. p. 244.

Leaves very wide for their length, when large almost cordate, as noticed by Michaux. *Peduncle* nearly an inch long. *Corolla* white, with purple veins at base.

Grows in bogs, on high mountains; Pursh. Pendleton county, South-Carolina; Messrs. Baker & Perry.

6. **PENDULUM.** Willd. Hort. Berol.

T. pedunculo brevi, recurvato, flore pendulo; petalis ovatis, acuminatis, patentibus, calycem æquantibus; foliis subrotundo-rhomboideis, acuminatis, subsessilibus.	Peduncle short, recurved, flower pendulous; petals ovate, acuminate, expanding, about as large as the calyx; leaves nearly round, rhomboidal, acuminate, somewhat sessile.

Pursh, 1. p. 246.

Leaves nearly round, with an abrupt, slender and rather long acumination. (*Peduncle* inclined, Pursh.) In my specimens the peduncle is more recurved and shorter than in the T. cernuum. *Flowers* small. Leaves of the *calyx* ovate, acuminate. (*Petals* of a dirty white, with netted veins. Pursh.)

Grows in the mountains, from Pennsylvania to Carolina.

Flowers April—May.

7. **CERNUUM.**

T. pedunculo recurvato; petalis lanceolatis, acuminatis, planis, reflexis, calycem æquantibus; foliis dilatato-rhomboide-	Peduncle recurved; petals lanceolate, acuminate, flat, reflected, as long as the calyx; leaves dilated, rhomboidal, ab-

ls, abrupte acuminatis, brevissime petiolatis. Pursh, 1. p. 245.	ruptly acuminate, on short petioles.

Sp. pl. 2. p. 271.

The largest species yet known in this genus. Pursh says the *leaves* are sometimes 9 inches wide: peduncles 2—3 inches long, perhaps longer in large plants. *Petals* white. I have specimens from the mountains of Carolina in which the peduncles are scarcely an inch long, and the petals rather larger than the leaves of the calyx.

Grows in shaded, rich, rocky soils.

Flowers April—May.

8. CATESBÆI. E.

T. pedunculo recurvato; petalis lanceolatis, calyce majoribus; foliis obovatis ovalibusque, acuminatis, basi attenuatis. E.	Peduncle recurved; petals lanceolate, larger than the calyx; leaves obovate and oval, acuminate, tapering at base.

Catesby, Carol. 1. p. 45. t. 45.
T. cernuum, Mich. 1. p. 216?

Leaves 4—6 inches long, rather obovate, 3 inches wide, tapering to the base and not abruptly acuminate at the summit. *Petals* lanceolate, expanding, undulate? rose coloured. Leaves of the *calyx* long, narrow.

It is remarkable with what facility we sometimes drop the species of our predecessors as inaccurate, when they have not recently occurred to our observation. Pursh says, under the T. cernuum, on the authority of Sir James E. Smith, that the figure of Catesby is so inaccurate it cannot be quoted without creating confusion, yet I have before me specimens agreeing minutely with the figure of Catesby, and collected in Pendleton at the head waters of the Saluda and Savannah rivers, precisely where Catesby informs us his plant was found. This is probably the original T. cernuum of Linnæus, but that name has been transferred to another plant.

Pendleton county, South-Carolina; Mesrs. Baker & Perry.

Flowers April—May.

9. NERVOSUM. E.

T. pedunculo recurvato; petalis oblongo-lanceolatis, calyce majoribus; foliis lanceolatis o-	Peduncle recurved; petals oblong lanceolate, larger than the calyx; leaves lanceolate and o-

vatisque, utrinque acutis, membranaceis, nervosis. E.

vate, acute at each end, membranaceous, nerved.

Plant 6—8 inches high. *Leaves* generally narrower than those of the T. sessile, most commonly lanceolate, membranaceous, somewhat 3 nerved. *Peduncles* about an inch long. *Petals* rose coloured.

Grows in the upper and middle country of Georgia and Carolina. Athens; Mr. Green. The T. cernuum of Walter probably belongs to this species.

Flowers April—May.

This genus is a very interesting one. Under great simplicity and conformity of habit, 3 leaves at the summit of a stem, supporting one solitary terminal flower, it contains and conceals many species. To those inserted above, I will add two species still in my herbarium, although I do not know that they are natives of the Southern States. I am indebted for them to Mr. Kin of Philadelphia, by whom they were collected in the mountains of Pennsylvania

T. undulatum. Foliis ovatis, acuminatis; flore pedunculato erecto; petalis oblongis, undulatis, patentibus. Kin

Leaves sessile, ovate; peduncle short, erect; petals much larger than the calyx

This is probably the T. undulatum of Willdenow. (Hort. Berol.) Pursh, under his T. pictum, refers to Willd. But to the T. pictum this plant has no affinity It is the only species I have seen with a real ovate, sessile leaf.

T. purpureum. Kin. Foliis spathulato-ovatis, acuminatis, venoso-nervosis; flore pedunculato cernuo; petalis calyce majoribus, atro-purpureis

This species is most nearly allied to T. cernuum, from which, however, it is sufficiently distinct.

SABAL.

Spathæ partiales. *Filamenta* libera, basi incrassata. *Bacca?* 1-sperma. *Semen* osseum.

Spathes partial. *Filaments* free, thickened at base. *Berry* 1-seeded. *Seed* bony.

1. **Pumila.** Walt.

Sabal Adansoni, Pursh, 1. p. 239. Pers. 1. d 399.
Chamærops acaulis, Mich. 1. p. 207.
Corypha pumila, Walt. p. 119.
Rhapis acaulis, Sp. pl. 4. p. 1093.

Root creeping. *Stem* 0. *Leaves* flabelliform, 3—4 feet high. *Stipes* unequally compressed, naked. *Scape* 4—6 feet high, panicled. *Flowers* nearly sessile, small. *Calyx* 3 parted. *Corolla* 3 cleft. *Berry* rather *drupe*, nearly round, bluish black.

Grows very abundantly on the sea islands, along the coast of Carolina and Georgia; covering in many places the most sandy soils. Scarcely differing from the next genus.

Flowers June—August. *Dwarf palmetto.*

CHAMÆROPS.

Spatha compressa. *Spadix* ramosus. *Calyx* 3-partitus. *Corolla* 8-petala. *Filamenta* submonodelpha. *Drupæ* 3, monospermæ.	*Spathe* compressed. *Spadix* branching. *Calyx* 3 parted. *Corolla* 3 petalled. *Filaments* somewhat monodelphous. *Drupes* 3, one seeded.

1. **Serrulata.**

C. caudice repente; stipitibus aculeato-serratis; frondibus plicato-palmatis. Pursh, 1. p. 289.	Caudex creeping, stipes sharply serrate; fronds plaited palmate.

Sp. pl. 4. p. 1155. Mich. 1. p. 206.

Fronds about 2 feet high, with the stem on stipes most sharply serrate. *Scape* paniculate. *Flowers* small, only one germ coming to maturity, producing a bluish black drupe.

Grows on the southern islands of Carolina; more common in Georgia, where it extends through the flat pine barrens.

Flowers July—August,

2. **Hystrix.** Fraser.

C. caudice repente; stipitibus aculeis longissimis intermixtis; frondibus plicato-palmatis.—Pursh, 1. p. 240.	Caudex creeping; stipes intermingled with long thorns; fronds plaited, palmate.

This palm was first noticed by the late Mr. Fraser. The leaves or fronds attain the height of 4—5 feet. It is remarkable for the thorns, like porcupine quills, which grow from the root intermingled with the fronds. It is found in rich, clayey soils, along the margins of swamps, and from its peculiar deep green colour, is sometimes called "*blue palmetto*"

Flowers June—August.

3. **Palmetto.**

C. caudice arboreo; stipitibus inermibus; spa-	Caudex arborescent; stipes unarmed; spathes

this duplicatis; frondibus plicato-palmatis. Sp. pl. p. 1155.	doubled; fronds plaited, palmate.

Mich. 1. p. 200. Pursh, 1. p 240.
Corypha palmetto, Walt. p. 119.
Mich. Arbres forest.

Stem sometimes attaining a height of 40—50 feet, 12—15 inches in diameter. The *fronds* 5 or 6 feet in length, growing at the very summit of the tree. *Flowers* in naked panicles. *Drupe* bluish black.

This palm possesses a great, and to this country an increasing value. It is the only tree produced in our forests which is not attacked by the *teredo navalis* or ship-worm; and as it is incorruptible in salt-water, its value for submarine construction is almost incalculable.

Its leaves can be employed in the manufacture of hats, baskets, mats, and many other purposes of domestic economy; and the "cabbage" composed of the unexpanded embryo leaves may be classed among the most delicious vegetables produced on our tables. It is however a wasteful luxury, as the tree always perishes when deprived of this part of its foliage

Grows along the sea coast of Carolina and Georgia, confined to the neighborhood of salt-water; preferring damp, rich soils.

Flowers Juue--July. *Tall palmetto.*

TETRAGYNIA.

SAURURUS.

Calyx amentum squamis unifloris. *Corolla* 0. *Baccæ* 4, monospermæ.	*Calyx* an amentum with 1 flowered scales. *Corolla* 0. *Berries* 4, 1 seeded.

1. Cernuus.

Sp. pl. 2. p. 292. Mich. 1. p. 218. Pursh, 1 p. 252.
Anon. aquatic. Walt. p. 127.

Root perennial, somewhat creeping. *Stem* herbaceous, 1—2 feet high, furrowed, hairy. *Leaves* alternate, cordate, slightly acuminate, entire, pubescent, a little glaucous underneath. *Flowers* in spikes, opposite the leaves, cernuous *Calyx* 1 leaved, tubular, hairy, the tube split on the upper side, the border lanceolate, acute, shorter than the tube. *Filaments* 6, longer than the calyx, inserted at the base of the germ. *Anthers* attached to the sides of the filaments. *Germs* 3—5, most generally 4, united on the inner side on pedicels as long as the tube of the calyx *Stigmas* shorter than the stamens, obtuse, reflected.

Grows in bogs and ponds; very common.

Flowers May—July. *Swamp Lilly.*

The fresh root is bruised and applied cold in form of a poultice to inflamed surfaces as an emollient and discutient.

HEXAGYNIA.

WENDLANDIA. Willd.

Calyx 6-phyllus. *Corolla* 6-petala. *Capsulæ* 6, uniloculares, monospermæ.	*Calyx* 6 leaved. *Corolla* 6 petalled. *Capsules* 6, 1-celled, 1 seeded.

1. **Populifolia.**

Sp. pl 2. p. 275. Pursh, 1. p. 252.

Stem shrubby, scandent, with terete branches, the younger pubescent and striate. *Leaves* alternate, petiolate, cordate, ovate, mucronate as with a gland, entire, veined, glabrous above, pubescent underneath. *Petioles* long, pubescent *Racemes* simple, half as long as the petioles, above the axils. *Peduncles, bracteas* and *calyx* externally pubescent. *Flowers* small, white. Willd.

This plant has hitherto escaped the researches of all of our botanists. Pursh supposes it to be the Cissampelos smilacina of Linnæus, the Menispermum Carolinianum of Walter and Michaux; yet I cannot reconcile the "capsules 6, one celled, one seeded," of the Wendlandia to the one seeded berry of the Menispermum.

Grows in Carolina. Willd. *Poplar-leaved Wendlandia.*

POLYGYNIA.

ALISMA. Gen. pl. 625.

Calyx 3-phyllus. *Petala* 3. *Capsulæ* plures, monospermæ.	*Calyx* 3 leaved. *Petals* 3. *Capsules* many, one seeded.

1. TRIVIALIS. Pursh.

A. foliis ovalibus, cordatisque, obtusissimis, 9-nervibus; floribus verticillato paniculatis; fructibus obtuse trigonis.—Pursh, 1. p. 252.	Leaves oval, cordate, very obtuse, 9 nerved; flowers in verticillate panicles; fruit obtusely 3 angled.

Alisma plantago, Mich. 1. p. 218.

Grows in ditches and ponds, from Carolina to Florida. Pursh.
Flowers July.

2. PARVIFLORA. Pursh.

A. foliis ovalibus cordatisque, paulo acuminatis, 7-nervibus; floribus verticillato paniculatis; fructibus obtuse trigonis. E.	Leaves oval and cordate, slightly acuminate, 7 nerved; flowers in verticillate panicles; fruit obtusely 3 angled.

Pursh, 1. p. 253.

Root creeping. *Leaves* 1—3 inches long, oval, slightly acuminate, sometimes rounded at base, the old generally cordate. *Scape* 10—18 inches long, branching; branches all verticillate. *Flowers* small.

Grows in salt marshes; Pursh. My specimens which appear to belong to this species, are from the upper districts of Carolina.

Flowers July—August.

3. SUBULATA.

A. pusilla; foliis lineari-subulatis; umbellis simplicibus. Pursh, 1. p. 253.	Plant striate; leaves linear subulate; umbels simple.

Clayton, p. 57. No. 723. Sp. pl. 2. p. 279.

Plant small, with *flowers* large in proportion. Pursh.

Grows in inundated soils, from New-York to Florida. Columbia? South-Carolina.

Flowers August.

CLASS VII.

HEPTANDRIA MONOGYNIA.

246. ÆSCULUS.

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ÆSCULUS.

Calyx 1-phyllus, 4—5 dentatus, ventricosus. *Corolla* 4—5 petala, inæqualis, calyci inserta. *Capsula* 3-locularis. *Semina* magna, solitaria.	*Calyx* 1-leaved, 4—5 toothed, ventricose. *Corolla* 4—5 petalled, unequal, inserted into the calyx. *Capsule* 3-celled. *Seeds* large, solitary.

1. PAVIA.

Æ. foliis quinatis, glabris, inæqualiter dentatis; corollis tetrapetalis; petalorum conniventium unguibus longitudine calycis. Sp. pl. 2. p. 286.	Leaves by fives, glabrous, unequally toothed; corolla 4 petalled; the claws of the connivent petals as long as the calyx.

Walt. p 128. Mich. 1. p. 219. Pursh, 1 p 254.

A shrub generally 3—5 feet high in the low country, sometimes becoming a small tree near the mountains: branches irregular, thick, obtuse. *Flowers* in terminal racemes, with the buds few flowered. *Petals* unequal, of a bright scarlet colour *Stamens* unequal, nearly as long as the petals. *Capsules* nearly round, coriaceous, 3 celled.

Grows in loose soils, preferring rich places.

Flowers April—May. *Buck's-Eye.*

The narcotic property of this shrub, has given rise to a singular mode of taking fish, practised, though not frequently, in some parts of this state. The tender branches are bruised and thrown into a pool of small extent, the water is then agitated until it becomes sufficiently impregnated to effect the fish; they rise to the surface almost lifeless and may be taken by the hand. The powdered seed may be used with equal effect. Fish taken in this manner are eaten with impunity.

The root of the Buck's-Eye is used as a substitute for soap in washing woollen clothes.

2. **Discolor.** Pursh.

Æ. foliis quinatis, utrinque acuminatis, subtus tomentosis, inæqualiter serrulatis; unguibus petalorum longitudine calycis. Pursh, 1. p. 255.	Leaves quinate, acuminate at each end, tomentose underneath, unequally serrulate; the claws of the petals as long as the calyx.

A shrub, not above 4 feet high. *Racemes* compound, with the buds many flowered. *Corolla* variegated with yellow, white and purple. *Stamens* 7, shorter than the corolla. *Fruit* unawned. Pursh.

Found by Mr. Lyon in the western districts of Georgia.
Flowers May.

3. **Flava.**

Æ. foliis quinatis, subtus ad costam pubescentibus, æqualiter serrulatis; corollis tetrapetalis; petalorum conniventium unguibus calyce longioribus. Sp. pl. 2. p. 286.	Leaves by fives, pubescent underneath near the midrib, equally serrulate; corolla 4 petalled, with the claws of the connivent petals longer than the calyx.

Pursh, 1. p. 255.
Æ. lutea, Mich. 1. p. 219.

Stem frutescent or arborescent, varying in height from 5 to 70 feet; branches terete, glabrous, flexuous. *Leaves* opposite, quinate; leaflets sessile, lanceolate, acuminate, ribbed; the lower surface sparingly sprinkled with hair. Common *petiole* 4—6 inches long. *Flowers* in a racemose terminal panicle, branches expanding, 2—6 flowered. *Peduncles* pubescent. *Calyx* nearly cylindrical, very pubescent, 5 cleft, with the segments obtuse. *Corolla* irregular, twice as long as the calyx, pale yellow; the 2 upper petals linear, longer, dilated at the summit, the 2 lateral oval, narrowed at base; all pubesceet, villous near the base. *Filaments* 7, subulate, hairy, unequal, about the length of the corolla. *Fruit* unarmed.

Grows in the mountains of Carolina and Georgia, where it becomes a tree. In Columbia county, Georgia, I have seen it 4—6 feet high.
Flowers March—April *Yellow-flowered Æsculus.*

4. **Macrostachya.**

Æ. foliis quinatis, subtus tomentosis; racemo	Leaves quinate, tomentose underneath; raceme

longissimo; corollis 4-petalis, patulis; staminibus longissime exertis. Pursh, 1. p. 255.	very long; corolla 4 petalled, expanding; stamens very long.

Mich. 1. p. 220.
Æsculus parviflora, Walt. p. 128.

A small shrub, 3—4 feet high. *Leaflets* obovate, acuminate, serrulate, tomentose underneath *Flowers* in very long racemes, white; buds 1 flowered. *Stamens* nearly three times as long as the corolla.

Grows near rivulets in the upper districts of Georgia and Carolina. Flowers April—May.

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CLASS VIII.

OCTANDRIA.

MONOGYNIA.

247. RHEXIA.
248. OENOTHERA.
249. EPILOBIUM.
250. GAURA.
251. OXYCOCCOS.
252. MENZIESIA.
253. ELLIOTTIA.
254. DIRCA.
255. ACER.

TRIGYNIA.

256. POLYGONUM.
257. CARDIOSPERMUM.
258. SAPINDUS.

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RHEXIA. GEN. PL. 636.

Calyx 4-fidus. *Corolla* 4-petala, calyci inserta. *Antheræ* declinatæ. *Capsula* 4-locularis, intra ventrem calycis.	*Calyx* 4 cleft. *Corolla* 4 petalled, inserted into the calyx. *Anthers* declined. *Capsule* 4 celled, within the bosom of the calyx.
* *Antheris incumbentibus.*	* *Anthers incumbent.*

1. **Mariana.**

R. hirsuta; foliis lanceolatis, utrinque acutis,	Hirsute; leaves lanceolate, acute at each end,

trinervibus; calyce tubuloso, glabriusculo. Mich. 1. p. 221.	3 nerved: calyx tubular, nearly glabrous.

Sp. pl. 2. p. 301. Walt. p. 130. Pursh, 1. p. 257.

Perennial. *Stem* 1—2 feet high, terete, furrowed. *Leaves* sometimes ovate lanceolate, serrate, ciliate. *Flowers* in the divisions and at the termination of the branches. *Calyx* ventricose near the base; the segments half as long as the tube, and with a few hairs scattered round the throat. *Petals* obliquely obovate, large, hairy on the outer surface, purple. *Filaments* inserted at the throat of the calyx. *Anthers* incumbent, versatile, long, 1 celled, opening at the summit, yellow. *Style* much longer than the stamens. *Capsule* included in the persistent calyx. *Seeds* numerous, attached to a receptacle in the centre of each cell.

Grows in all humid soils.

Flowers June—September.

2. ANGUSTIFOLIA. E.

R. hirsuta; foliis linearibus, lineari-lanceolatisque, sub fasciculatis; radice repente? E.	Hirsute; leaves linear and linear lanceolate, somewhat clustered; root creeping?

Rhexia lanceolata, Walt. p. 129.

Rhexia mariana, *var. exalbida*, Mich. 1. p. 221. Pursh, 1. p. 258.

I have always been disposed to join with Walter in separating this plant from the R. mariana. Its habit, as far as I have seen it, is distinct. It grows in small patches like a creeping plant, not singly, or thinly scattered. Its leaves are more numerous on the stem, very narrow; its flowers smaller than those of the R. mariana, and the petals generally white.

Grows in damp soils. Near Savannah.

Flowers June—August.

3. GLABELLA. Mich.

R. glabra; caule tereti; foliis lanceolatis ovatisque, trinervibus, denticulatis, glaucescentibus; calycibus glutinosis. E.	Glabrous; stem terete; leaves lanceolate and ovate, 3 nerved, denticulate, slightly glaucous; calyx glutinous.

Mich. 1. p. 222. Pursh, 1. p. 258.

R. alifanus, Walt. p. 130.

Stem 2—3 feet high, glabrous, slightly furrowed. *Leaves* glabrous, sessile, with a few serratures near the summit. *Calyx* sprinkled with viscid hairs. *Petals* somewhat acute, gibbous on one side, large, purple.

The leaves and stem of this plant have a very sweet taste, and they are said, though I know not if upon good authority, to be a favourite food of our deer. They are eaten by children with impunity.

Grows in stiff, damp soils.

Flowers June—August. *Deer grass.*

4. CILIOSA Mich.

R. caule subquadrato, glabro; foliis ovato-lanceolatis, serrulatis, ciliatis, trinervibus, subtus glabris; floribus involucratis. E.	Stem nearly square, glabrous; leaves ovate lanceolate, serrulate, ciliate, 3 nerved, glabrous underneath; flowers with an involucrum.

Mich. 1. p. 221. Pursh, 1. p. 258.
Rhexia petiolata, Walt. p. 130.

Stem about 18 inches high. *Leaves* sometimes lanceolate, acutely serrulate, with the serratures fringed, the upper surface hairy. *Petioles* very short, scarcely distinct. *Flowers*, as in the preceding species, in a loose dichotomous panicle. *Involucrum* composed of 2 leaves at the base of each flower. *Petals* nearly round, purple.

Grows in damp pine barrens.

Flowers June—August.

5. STRICTA. Pursh.

R. caule stricte-erecto, alato, glabro, ad nodos barbato; foliis sessilibus, angusto-lanceolatis, acuminatis, trinervibus, utrinque glabris; corymbis dichotomis. Pursh, 1. p. 258.	Stem strict, erect, winged, glabrous, bearded at the joints; leaves sessile, narrow lanceolate, acuminate, 3 nerved, glabrous on both sides; corymbs dichotomous.

Stem 4 angled, slightly bearded at the joints. *Leaves* slender. *Calyx* glabrous. *Flowers* handsome, purple. Pursh.

Described by Pursh from specimens collected in the bogs of Georgia by Mr. Enslen. It appears to be very nearly allied to the next species.

6. VIRGINICA.

R. caule angulato, alato; foliis ovato-lanceolatis, ciliato-serratis, 5—7	Stem angled, winged; leaves ovate lanceolate, ciliate, serrate, 5--7 nerv-

nervibus, pilis adspersis; corymbo dichotomo. E

ed, sprinkled with hair; corymbs dichotomous.

Sp. pl. 2. p. 301. Mich. 1. p. 222. Pursh, 1. p. 258.
Rhexia septemnervia, Walt. p. 130.

Stem 2—3 feet high, square, winged along the angles, branching, smooth, but sometimes fringed along the wings. *Leaves* sessile. *Flowers* axillary and terminal, forming a tolerably regular corymb. *Petals* obovate, slightly mucronate, purple.

Grows in swamps and wet soils.

Flowers July—September.

** *Antheris erectis, terminalibus.*

** *Anthers erect, terminal.*

7. **Lutea.** Walt.

R. hirsuta; foliis lineari-lanceolatis, basi interdum cuneatis, trinervibus; panicula pyramidata; antheris erectis. E.

Hirsute; leaves linear lanceolate, sometimes wedge shaped at base; 3 nerved; panicle pyramidal; anthers erect.

Walt. p. 130. Mich. p. 222. Pursh, 1. p. 258.

Stem about 18 inches high, square, branches brachiate, hispid. *Leaves* sessile, and excepting the midrib, glabrous on the under surface. *Flowers* in a pyramidal panicle, the branches generally 3 flowered. Tube of the *calyx* ventricose, border campanulate, 4 cleft, as long as the tube. *Petals* obovate, mucronate, yellow, less caducous than in the other species. *Filaments* dilated at base, almost united. *Anthers* erect, furrowed, 1 celled.

This species, by the structure of its anthers, and the form of its panicle, recedes from the general character and habit of the genus.

Grows in damp pine barrens.

Flowers June—August

*** *Incertæ sedis.*

8. **Linearifolia.** La Marck.

R? caule cylindrico, subpubescente; foliis alternis, linearibus, oblongis, obtusis, sessilibus, utrinque pubescentibus; floribus subsolitariis.—Enc. Lam. 6. p. 2.

Stem cylindrical, slightly pubescent; leaves alternate, linear, oblong, obtuse, sessile, pubescent on both surfaces; flowers generally solitary.

Pursh, 1. p. 259.

Flowers yellow.
Found in Carolina by Bosc.
Flowers

ŒNOTHERA. Gen. pl. 637.

Calyx 4-fidus, tubulosus. *Corolla* 4-petala. *Capsula* infera, 4 locularis.

Calyx 4 cleft, tubular. *Corolla* 4 petalled. *Capsule* inferior, 4 celled.

1. Biennis.

Œ. caule villoso, scabro; foliis ovato-lanceolatis, planis, dentatis; floribus spicatis; staminibus corolla brevioribus. Sp. pl. 2. p. 306.

Stem villous, scabrous; leaves ovate lanceolate, flat, dentate; flowers spiked; stamens shorter than the corolla.

Mich. 1. p. 224. Pursh, 1. p. 261.
Œnothera mollissima? Walt. p. 129.

Perennial? *Stem* herbaceous, 3—8 feet high, terete. *Leaves* alternate, sessile, very pubescent. *Flowers* in a terminal spike, with a leaf at the base of each, longer than the germ. *Calyx* deciduous; the tube 2 inches long, thickened at the summit; the segments half as long as the tube, hairy on the outside, reflected. *Petals* obovate, emarginate, yellow, shorter than the segments of the calyx. *Germ* inferior, cylindrical, furrowed. *Style* longer than the corolla. *Stigma* 4 cleft. *Capsule* nearly cylindrical. *Seeds* numerous in each cell, angled, attached to a central receptacle.
Grows in dry pastures, along fences, &c.
Flowers September—October.

2. Muricata.

Œ. caule purpurascente, muricato: foliis lanceolatis, planis; staminibus longitudine corollæ. Sp. pl. 2. p. 307.

Stem purplish, muricate; leaves lanceolate, flat; stamens as long as the corolla.

Pursh, 1. p. 261.

Flowers smaller than in the preceding species.
Grows along fences and in old fields. Pursh.
Flowers July—August,

3. GRANDIFLORA.

Œ. caule glabriusculo, ramoso; foliis ovato-lanceolatis, glabris; staminibus declinatis. Sp. pl. 2. p. 306.

Stem nearly glabrous, branching; leaves ovate lanceolate, glabrous; stamens declining.

Pursh, 1. p. 261.

Stem 2—3 feet high, branching *Leaves* sometimes lanceolate, 3—4 inches long, 1—2 wide, frequently pubescent. *Flowers* axillary, sessile, large, of a bright yellow colour. Tube of the *calyx* very long. *Stamens* declining, shorter than the corolla.

Grows in gardens and around buildings. Certainly not indigenous in our low country.

Flowers May—September.

4. HYBRIDA. Mich.

Œ. caule erecto, villoso; foliis utrinque pubescentibus, lanceolatis, remote subdentatis, undulatis; capsulis subspicatis, breviter stipitatis, ovato-tetragonis. Mich. 1. p. 225.

Stem erect, villous; leaves pubescent on both sides, lanceolate, remotely toothed, undulate; capsules somewhat spiked, on short footstalks, ovate and 4 angled.

Pursh, 1. p. 262.

Stem 1—3 feet long, hairy, slightly muricate. Tube of the *calyx* 3 or 4 times as long as the segments. *Petals* and *stamens* as long as the segments of the calyx. *Capsule* nearly sessile, ovate, long, scarcely angled.

Grows in the upper districts of Georgia and Carolina.

Flowers July—September.

5. FRUTICOSA.

Œ. pubescens; caule a basi ramoso, divaricato; foliis sessilibus, lanceolatis, subdentatis, acutis; capsulis pedicellatis, oblongo-clavatis, angulatis. Pursh, 2. p. 734.

Pubescent; stem branching from the base, divaricate; leaves sessile, lanceolate, slightly toothed, acute; capsules pedicellate, oblong clavate, angled.

Sp. pl. 2. p. 310. Walt. p. 129.

Stem 1—2 feet high, terete, pubescent. *Leaves* frequently oblong, ovate, with 2 small ones in the axils. *Flowers* in a terminal raceme. *Corolla* yellow, longer than the stamens.

Grows in the middle and upper districts of Carolina and Georgia.

Flowers July—August.

6. FRASERI. Pursh.

Œ. glabriuscula : caule inferne simplici ; foliis ovatis, petiolatis, denticulatis ; racemis foliosis ; capsulis pedicellatis, obovatis, 4-gonis. Pursh, 2. p. 734.	Nearly glabrous ; stem near the base simple ; leaves ovate, petiolate, denticulate ; racemes leafy ; capsules pedicellate, obovate, 4 angled.

This species is taken from Pursh, who remarks, that it differs from the O fruticosa, to which perhaps it is too nearly allied, principally in habit ; flowering but for a short period, and forming immediately new tufts of radical leaves, which the O. fruticosa does not produce until late in autumn.

Collected by Mr. Fraser in South-Carolina.

Flowers June—July.

7. SINUATA.

Œ. caule diffuso, pubescente ; foliis ovali-oblongis, dentato sinuatis ; floribus axillaribus, villosis ; capsulis prismaticis.—Pursh, 1. p. 261.	Stem diffuse, pubescent ; leaves oval oblong, toothed and sinuate ; flowers axillary, villous ; capsules prismatick.

Sp. pl. 2. p. 309. Mich. 1. p. 224.
Œnothera biennis ? Walt p. 129.
Œnothera minima, Pursh, 1. p 262.

Stem 1 - 2 feet long, generally prostrate, branching, roughened. *Leaves* sessile, denticulate near the summit, sinuate, almost pinnatifid near the base. *Flowers* solitary, sessile. *Corolla* small. *Petals* as long as the segments of the calyx, nearly obcordate, yellow. *Style* shorter than the corolla, woolly in the middle. *Capsule* cylindrical, sessile, furrowed.

In very dry, sandy soils this plant becomes very diminutive, its leaves small, and almost entire, and the flowers few. In this state I suspect it is the O. minima of Pursh, described from specimens collected in Georgia by Mr. Enslen.

Grows generally in dry pastures.

Flowers April—September.

8. PUMILA.

Œ. glabra; caulibus adscendentibus; foliis lanceolatis, integerrimis, obtusis; capsulis obovatis, angulatis. Sp. pl. 2. p. 310.

Glabrous; stem ascending; leaves lanceolate, entire, obtuse; capsules obovate, angled.

Pursh, 1. p. 262.

Plant 8—12 inches high. Upper *leaves* linear lanceolate, when young pubescent. *Flowers* small. Tube of the *calyx* not longer than segments. *Capsules* nearly sessile.

Grows in dry fields, in Virginia and Carolina. Pursh.

Flowers July.

9. CHRYSANTHA. Mich.

Œ. caule debili, pubescente; foliis lanceolatis, obtusiusculis, planis, integris; calycis tubo laciniis duplo breviore; capsula clavata, acutangula, sessili. Mich. 1. p. 225.

Stem weak, pubescent; leaves lanceolate, rather obtuse, flat, entire; tube of the calyx but half as long as the segments; capsule clavate, acutely angled, sessile.

Pursh, 1. p. 263.

Plant small, scarcely a foot high. *Flowers* small, and of a golden yellow colour. Mich.

Grows on the mountains of Carolina. Pursh.

Flowers July—August.

10. LINEARIS. Mich.

Œ. pubescens, gracilis; foliis linearibus, integris; capsulis longiuscule stipitatis, subrotundo-tetragonis, villosis.

Pubescent, slender; leaves linear, entire; capsules on long footstalks, nearly round, 4 angled, villous.

Mich. 1. p. 225. Pursh, 1. p. 262.

Stem 1—2 feet high. *Leaves* crowded near the summit, so that the axillary *flowers* appear to form a corymb. *Corolla* large, bright yellow.

I possess a number of specimens of an Œnothera apparently belonging to this species, collected by R. W Habersham, Esq. in the south of Georgia, in all of which the stems are geniculate and curved near the middle

Grows in dry soils, in the middle country of Georgia and Carolina. Flowers April—May.

EPILOBIUM. Gen. pl. 639.

Calyx 4-fidus, tubulosus. *Corolla* 4-petala. *Capsula* oblonga, 4-locularis, infera. *Semina* papposa.	*Calyx* 4 cleft, tubular. *Corolla* 4 petalled *Capsule* oblong, 4 celled, inferior. *Seeds* crowned with a tuft of hair.

1. Tetragonum.

E. caule lineis prominulis subquadrangulatis; foliis oppositis, supremis alternis, lanceolatis, serrulatis. Pursh, 1. p. 259.	Stem somewhat 4 angled by prominent lines; leaves opposite, the upper ones alternate, lanceolate, serrulate.

Sp. pl. 2. p. 317. Mich. 1. p. 223.

Root perennial. *Stem* herbaceous, about 2 feet high, branching, glabrous. *Leaves* narrow, sharply serrulate. *Flowers* in terminal racemes, small, crowning the germ, pale red. *Germ* linear, long. *Capsule* long, 4 angled. *Seed* oblong, crowned with a tuft of hair.

Grows among the Saluda mountains. Dr. Macbride.

Flowers July—August.

GAURA. Gen. pl. 638.

Calyx 4-fidus, tubulosus. *Corolla* 4-petala, adscendens. *Nux* 1-sperma, 4-angulata, infera.	*Calyx* 4 cleft, tubular. *Corolla* 4 petalled, ascending. *Nut* 1 seeded, 4 angled, inferior.

1. Angustifolia Mich.

G. foliis fasciculatis, linearibus, repando-undu-	Leaves clustered, linear, repand, undulate;

latis; fructibus oblongo-tetragonis, utrinque acutis. Mich. 1. p. 226.

fruit oblong, 4 angled, acute at each end.

Pursh, 1. p. 260.
Gaura biennis, Walt. p. 128.

Perennial. *Stem* herbaceous, about 3 feet high, terete, pubescent. *Leaves* sessile, alternate, a little hairy. *Flowers* in a terminal panicle composed of slender racemes. *Calyx* 4 cleft, deciduous, the segments linear, reflected, much longer than the tube. *Petals* inserted into the tube of the calyx near the summit, spathulate, obtuse, white, half as long as the segments of the calyx. *Filaments* inserted into the tube of the calyx. *Anthers* oblong, 2 celled. *Germ* angled, oblong, pubescent. *Style* as long as the stamens. *Stigma* capitate, slightly 2 lobed.

Grows in very dry, sandy soils.

Flowers July—August.

2. BIENNIS.

G. foliis lanceolatis, dentatis; spica conferta; fructibus subrotundo-4-gonis, pubescentibus.—Pursh, 1. p. 260.

Leaves lanceolate, dentate; spike crowded; fruit nearly round, slightly 4 angled, pubescent.

Sp. pl. 2. p. 311. Mich. 1. p. 226.

Stem herbaceous, branching. *Leaves* lanceolate, pubescent, irregularly and slightly dentate, sometimes entire. *Flowers* more crowded in the terminal spikes, and much larger than in the preceding species. *Fruit* acute at each end.

Grows in fertile, stony soils, in the upper districts of Carolina and Georgia.

Flowers July—August.

OXYCOCCUS. PERSOON.

Calyx 4-fidus. *Corolla* 4-partita, laciniis sublinearibus, revolutis. *Filamenta* conniventia. *Antheræ* tubulosæ, bipartitæ. *Bacca* polysperma.

Calyx 4 cleft. *Corolla* 4 parted, with the segments somewhat linear, revolute. *Filaments* conniving. *Anthers* tubular, 2 parted. *Berry* many seeded.

1. ERYTHROCARPUS.

O. erectus: foliis ovalibus, acuminatis, serrulatis ciliatisque; pedicellis axillaribus; corolla longa, demum revoluta. Pers. 1. p. 419.

Erect; leaves oval, acuminate, serrulate and ciliate; pedicels axillary; corolla long, at last revolute.

Oxycoccus erectus, Pursh, 1. p. 264.
Vaccinium erythrocarpum, Mich. 1. p. 227.

A small shrub, growing on the highest mountains of Carolina, erect, with the branches divaricate or flexuous. *Leaves* rather large, membranaceous, hairy near the nerves. *Calyx* minute, acutely 4 cleft. *Berry* globular, bright scarlet. Mich. Berry transparent, and of an exquisite flavour. Pursh.

Grows on high mountains, from Virginia to Carolina.

Flowers June.

MENZIESIA. Smith.

Calyx 1-phyllus, inferus. *Corolla* 1-petala, ovata. *Filamenta* receptaculo inserta. *Capsula* 4-locularis, dissepimenta e marginibus inflexis valvularum. *Semina* numerosa, oblonga.

Calyx 1 leaved, inferior. *Corolla* 1 petalled, ovate. *Filaments* inserted on the receptacle. *Capsule* 4 celled, with the dissepiments from the inflected margins of the valves. *Seeds* numerous, oblong.

1. GLOBULARIS. Salisbury.

M. foliis lanceolatis, subtus glaucis, extra nervos pubescentibus; calycibus 4-fidis; floribus globosis, octandris. Pursh, 1. p. 264.

Leaves lanceolate, glaucous underneath, and except the nerves pubescent; calyx 4 cleft; flowers globose, octandrous.

Menziesia Smithii? Mich 1. p. 235.

A small shrub, not exceeding 4 feet high. *Leaves* when young very hairy. *Flowers* yellowish brown.

Grows in the high mountains of Virginia and Carolina.

Flowers May—June.

ELLIOTTIA. MUHLENBERG.

Calyx 4-dentatus, inferus. *Corolla* profunde 4-partita. *Stigma* capitatum. *Capsula?*	*Calyx* 4 toothed, inferior. *Corolla* deeply 4 parted. *Stigma* capitate. *Capsule?*

1. RACEMOSA. Muhl. Cat.

A shrub, 4 – 10 feet high, with numerous virgate branches. *Leaves* alternate, lanceolate, mucronate, entire, pubescent and slightly glaucous on the under surface. on short petioles. *Flowers* in terminal racemes. *Calyx* small. *Corolla* white, the segments slightly cohering at base *Filaments* 8, glandular, transparent, inserted at the base of the germ. *Anthers* sagittate. 2 celled. *Style* longer than the stamens. *Stigma* capitate, perhaps more correctly clavate, undivided. The fruit I have never been able to procure.

This plant in habit has an entire resemblance to Clethra. From its corolla, undivided stigma, and the number of its stamens I have inserted it, as requested by Dr. Muhlenberg, under this name.

First discovered around Waynesborough, Burke county, Georgia. Mr. Jackson has lately sent it to me from the Ocenee.

Grows in moderately dry, rich soils.

Flowers June.

DIRCA. GEN. PL. 665.

Calyx 0. *Corolla* infera, tubulosa, limbo obsoleto. *Stamina* tubo longiora. *Bacca* 1-sperma.	*Calyx* 0. *Corolla* inferior, tubular, with the border irregular. *Stamens* longer than the tube. *Berry* 1 seeded.

1. PALUSTRIS.

Sp. pl. 2. p. 424. Walt. p. 131. Mich. 1. p. 236. Pursh, 1. p. 268.

A small sbrub, 2 – 5 feet high. *Leaves* alternate, oblong oval, pale green. *Flowers* yellow.

This shrub is generally humble. It begins to ramify near the ground, and resembles a spreading tree in miniature, The diameter of the trunk seldom exceeds half an inch, the bark is smooth and yellowish; the wood is soft, tough and so flexible that the ends of the twigs and even the trunks may be tied together. The bark has a sweetish taste, and when chewed excites a burning sensation in the fauces. Macb.

Grows in moist places near rivulets. Near Augusta; Bartram. In the oak lands on Colleton's neck, where it is said to indicate the richest soil.

Flowers February—March—before it produces its leaves.

Leather-wood. Moose-wood.

ACER. Gen. pl. 1590.

Calyx 5-fidus. *Petala* 5. *Samaræ* 2, basi unitæ, 1-spermæ, alatæ.	*Calyx* 5 cleft. *Petals* 5. *Samaras* 2, united at base, 1 seeded, winged.

1. Rubrum.

A. foliis subquinquelobis, acutis, serratis, subtus glaucis; floribus umbellatis, erectis; germinibus glabris. Sp. pl. 4. p. 984.	Leaves generally 5 lobed, acute, serrate, glaucous underneath; flowers in umbels, erect; germs glabrous.

Mich. 2. p. 253. Pursh. 1. p. 265. Mich. Arbres fores. 2. p. 210. Acer Carolinianum? Walt. p. 251.

A tree of moderate size, growing from 20 to 60 feet high, according to the soil in which it is situated. In damp rich swamps it becomes a tree of considerable magnitude; in ponds, or in soils merely damp it is generally small. In descending to the mouths of our large rivers it is the last tree we find in the swamps, diminishing as the soil becomes impregnated with salt, until it dwindles to a shrub, and mingling with the Myrica cerifera (candleberry myrtle) and Baccharis halimifolia, finally disappears. It is distinguished also for its smooth clouded bark, and bright scarlet flowers and fruit, that precede its foliage. *Leaves* 3—5 lobed, irregularly toothed. *Flowers* in small axillary clusters, polygamous. *Stamens* 5—8, irregular in their number, as occurs, I believe, in most of the species in this genus.

Grows in swamps, very abundantly.

Flowers January—February. *Red maple—Scarlet maple.*

2. Dasycarpum.

A. foliis palmato-quinquelobis, acuminatis, serratis, subtus pubescentibus albo-glaucis; floribus capitato-umbellatis; ger-	Leaves palmate, 5 lobed, acuminate, serrate, pubescent underneath and glaucous almost to whiteness; flowers in cluster-

minibus tomentosis. Sp. pl. 4. p. 985.	ed umbels; germs tomentose.

This is generally a much larger tree than the preceding, and its foliage, from the whiteness of the under surface, is singularly beautiful. *Flowers* sessile, of a pale yellowish colour. *Capsule* (samara) yellowish, with the wings larger than those of any other of our species.

Grows in the river swamps, in the upper and middle country, very abundantly. Is rarely seen within 40 miles of the ocean.

Flowers February—

3. SACCHARINUM.

A. foliis quinquelobis, acuminatis, subdentatis, subtus pubescentibus; corymbo laxo, subnutante; pedunculis pilosis. Sp. pl. 4. p. 985.	Leaves 5 lobed, acuminate, somewhat dentate, pubescent underneath; corymb loose, nodding; peduncles hairy.

Mich. 2. p. 252. Pursh, 1. p. 266. Mich. Arb. forest. 2. p. 218.

A tree, growing in favourable situations from 50—80 feet high, with a diameter of from 18—30 inches. The bark smooth and very white. *Leaves* on long footstalks, glaucous underneath, with the lobes remotely toothed. *Flowers* both fertile and sterile, on long pendulous peduncles *Corolla* pale yellow. *Capsules* turgid, the wings pale yellow. The fruit, which in the two former species ripen in March and April, do not in this come to maturity until October—(Mich.)

The value of this tree for its timber, but particularly for the sugar obtained from its sap, is generally known. I do not know that it has ever been employed in the southern States for this purpose, or if it be sufficiently abundant. It is however more generally diffused, than Michaux in his valuable work on our Forest trees, appears to suppose. I have seen them growing freely on the declivities of steep hills in Columbia county, Georgia. On the banks of the Santee it descends as low as St. Stephen's, and is found on the head waters of Cooper river, within 30 miles of Charleston.

Grows in cool, damp soils.

Flowers early in the spring. *Sugar maple.*

4. NIGRUM.

A. foliis palmato-quinquelobis, cordatis, subtus pubescentibus. lobis divaricatis, sinuato-subdenta-	Leaves palmate, 5 lobed, pubescent underneath, cordate, lobes divaricate, sinuate and slightly tooth-

tis; floribus corymbosis; capsulis turgide subglobosis. Mich. Arbres forest. vol. 2. p. 238.	ed; flowers in corymbs; capsules turgid, somewhat globose.

Pursh, 1. p. 266.

This is also a very large tree. *Leaves* large, the 2 lower lobes obscure, the 3 upper divaricate and sparingly toothed. *Flowers* on pendulous peduncles. *Capsules* turgid, with the wings pale yellow. Fruit ripening in October.

Grows in mountainous situations. Commonly called *black maple*, and in Tennessee, *sugar tree*.

Flowers in the spring.

5. BARBATUM.

A. foliis breviter trilobis, serratis; pedunculis masculis ramosis, fœmineis simplicissimis; capsulæ alis erectis. Mich. 2. p. 252.	Leaves with 3 short lobes, serrate; peduncles of the sterile flowers branching, of the fertile very simple; wings of the capsule erect.

Sp. pl. 4. p. 989. Pursh, 1. p. 266.

A small tree. *Leaves* small, ovate, cordate, with 3 short lobes unequally serrate, glaucous underneath and pubescent along the nerves. *Peduncles* hairy. *Flowers* small, pale green, sterile and fertile intermingled. *Calyx*, particularly of the sterile flower, thickly bearded on the inside.

Grows in deep pine and cedar swamps, from New-Jersey to Carolina. Pursh.

Flowers April.

6. PENNSYLVANICUM.

A. foliis trilobis, acuminatis, duplicato-serratis, glabris; racemis simplicibus, pendulis. Sp. pl. 4. p. 989.	Leaves 3 lobed, acuminate, doubly serrate, glabrous; racemes simple, pendulous.

Mich. 2. p. 252.

Acer striatum, Mich. Arbres forest, 2. p. 242. Pursh, 1. p. 267.

A small tree, scarcely exceeding the stature of a shrub. *Bark* smooth and streaked. *Leaves* moderately large, rounded towards the base, 3 lobed at the summit, finely serrate. *Flowers* in simple, pendulous racemes

Grows in the Alleghany mountains, but rare at their southern extremity.

Flowers April—May.

7. MONTANUM.

A. foliis subquinquelobis, acutis, serratis, subtus pubescentibus; racemis compositis, erectis. Sp. pl. 4. p. 988,	Leaves generally 5 lobed, acute, serrate, pubescent underneath; racemes compound, erect.

Mich. 2. p. 253. Pursh, 1. p. 267.

A tree, confined very much to the mountains. *Leaves* rugose. *Flowers* very small, greenish yellow.

Grows in the Alleghany mountains, from Canada to Georgia.

Flowers April—May.

8. NEGUNDO.

A. foliis pinnatis ternatisve, inæqualiter serratis; floribus dioicis. Sp. pl. 4. p. 992.	Leaves pinnate and ternate, unequally serrate; flowers dioicous.

Walt. p. 250. Mich. 2. p. 253. Pursh, 1. p. 268.

A tree, growing from 30—50 feet high, the branches scattered and expanding. *Leaves* pinnate, leaflets ovate, acuminate, irregularly and coarsely dentate. *Flowers* in long, pendulous racemes. *Capsules* oblong, with wings somewhat obovate, pale yellow.

The fruit of this tree resembles the other species of Acer, but its pinnate leaves and dioicous flowers mark a very distinct habit. M. Rafinesque, in the Medical Repository for 1808, proposed to form of this species a new genus under the name of Negundium.

Grows along the margins of rivers, in the upper districts of Carolina and Georgia. At Columbia, South-Carolina, common.

Flowers April—May.

TRIGYNIA.

POLYGONUM.

Calyx 0. *Corolla* 5-partita, calycina. *Semen* 1, angulatum, tectum.	*Calyx* 0. *Corolla* 5 parted, resembling a calyx. *Seed* 1, angled, covered.
* *Floribus axillaribus.*	* *Flowers axillary.*

1. **MARITIMUM.**

P. floribus octandris, 3-gynis, axillaribus ; ochreis membranaceis, bilobis ; foliis lanceolatis, subcarnosis, margine revolutis ; caule prostrato, suffruticoso.	Flowers octandrous, trigynous, axillary ; stipules membranaceous, 2 lobed ; leaves lanceolate, somewhat fleshy, with the margins revolute ; stem prostrate, somewhat shrubby.

Sp. pl. 2. p. 449.
P. marinum, Pursh, 1. p. 269.

Stem perennial, hard, glabrous, branching, 1—2 feet long. *Leaves* coriaceous, attenuate at base. *Stipules* very large, loose, transparent, frequently lacerate. *Flowers* axillary, on peduncles about half an inch long. *Corolla* white, tinged with red.

Grows among sand hills, near the margins of the ocean. Common on Sullivan's Island.

Flowers through the summer.

* 2. **AVICULARE.**

P. floribus subsessilibus, 8-andris, 3-gynis ; foliis lanceolatis, serrulatis ; ochreis brevibus, apice tripartitis, laceris ; caule procumbente, ramosissimo. E.	Flowers nearly sessile, octandrous, trigynous ; leaves lanceolate, serrulate ; stipules short, 3 parted at the summit, lacerate ; stem procumbent, branching.

Sp. pl. 2. p. 449. Walt. p. 132. Mich. 1. p. 237. Pursh, 1. p. 269.

Root perennial. *Stem* commonly prostrate, striate, glabrous. *Leaves* glabrous, alternate, small, sitting on a short, sheath-like peduncle. *Flowers* few in each axil. *Stipules* membranaceous. *Corolla* greenish white, with the segments obtuse, persistent. *Stamens* shorter than the tube of the corolla. *Styles* 3, very short. *Stigmas* capitate. *Seed* 3 angled, acute, covered by the persistent corolla.

Grows along roads, streets pastures, &c. Very common.

Flowers through the summer.

3. TENUE. Mich.

P. caule erecto, ramoso, acutangulo; foliis linearibus, strictis, acuminatis; ochreis apice villosis; floribus alternis, subsolitariis.

Stem erect, branching, acutely angled; leaves linear, strait, acuminate; stipules villous at the summit; flowers alternate, generally solitary.

Mich. 1. p. 238. Pursh, 1. p. 270.
Polygonum linifolium, Muhl. Cat.

Annual. *Stem* 6—8 inches high, glabrous. *Stipules* tubular, chesnut coloured. *Flowers* small, white.

Grows on rocks. Among the Saluda mountains not rare. Dr. Macbride.

Flowers July—September.

** *Floribus spicatis, terminalibus.*

** *Flowers in terminal spikes.*

4. VIRGINIANUM.

P. floribus 4-fidis, inæqualibus, remotis, 5-andris, 2-gynis; foliis lato-lanceolatis, acuminatis, ciliato-serrulatis. E.

Flowers 4 cleft, unequal, remote, pentandrous, digynous; leaves broad lanceolate, acuminate, with fringed serratures.

Sp. pl. 2. p. 442. Mich. 1. p. 238. Pursh, 1. p. 270.
Polygonum Bistorta? Walt p. 131.

Perennial. *Stem* simple, 2—4 feet high, hairy towards the summit, thickened at the joints. *Leaves* sometimes oval and ovate, somewhat scabrous, sprinkled with glandular hairs. *Stipules* truncate, ciliate. *Spikes* axillary and terminal, simple, with the flowers scattered. *Stamens* shorter; *styles* longer than the corolla, *Stigmas* acute. *Seed* ovate, obtuse, compressed.

Grows in shaded, rich land.

Flowers August—September.

5. Setaceum. Baldwin.

P. floribus 8-andris, semitrigynis; pedunculis elongatis, distachyis; spicis interruptis, hirsutis; foliis lato-lanceolatis, acuminatis, hirsutis; ochreis hirsutis ciliatisque; caule erecto, glabro. B.	Flowers octandrous, with the style 3 cleft; peduncles long, 2 spiked; spikes interrupted, hirsute; leaves broad lanceolate, acuminate, hirsute; stipules hirsute and ciliate; stem erect, glabrous.

Stem 1—2 feet high. *Petioles* very short. *Stipules* long, fringed with long bristles. *Corolla* white, resembling the P. hirsutum, but sufficiently distinct by its smooth stem and interrupted spikes. B.

Grows in clayey soils, Savannah; St. Mary's, Georgia. Bald.

Flowers June—August.

6. Hirsutum. Walt.

P. floribus in spicis filiformibus, 8-andris, semitrigynis; caule ochreisque hirsutissimis; foliis lanceolatis, hirsutis, punctatis. E.	Flowers in filiform spikes, octandrous, with the styles 3 cleft; stem and stipules very hairy; leaves lanceolate, hairy, dotted.

Walt. p. 132. Mich. 1. p. 239. Pursh, 1. p. 270.

Stem decumbent and erect, branching, 2 feet high, completely clothed with long rufous hair. *Leaves* oblong, sometimes slightly cordate at base, acute, entire, hairy, but much less so than the stem. *Spikes* 2—3, very slender, fascicles generally 2 flowered, or producing but 1 or 2 flowers at a time. *Corolla* white. *Style* as long as the stamens. *Stigmas* capitate. *Seed* 3 angled.

Grows in shallow ponds.

Flowers May—August.

7. Punctatum. E.

P. floribus 8-andris, semitrigynis, subconfertis; ochreis longe ciliatis; foliis angusto-lanceolatis, glabris, pellucido-puncta-	Flowers octandrous, somewhat crowded, with the styles 3 parted; stipules with a long fringe; leaves narrow lanceolate,

tis, marginibus et nervo dorsali scabris. E.	glabrous, with pellucid dots, the margin and midrib scabrous.

P. persicaria? Walt. p. 131.
P. Hydropiper, Mich. 1. p. 238.
P. Hydropiperoides, Pursh, 1. p. 270.

Root perennial, somewhat creeping. *Stem* about 2 feet long, slender, branching, glabrous, decumbent, with the summit erect. *Leaves* very acute, with a silken lustre, ending at base in a short compressed sheathing petiole. *Stipules* truncate, pubescent. *Flowers* in 1 or 2 simple, slender spikes; fascicles generally 3 flowered, the lower ones remote. *Corolla* white, the segments obtuse, dotted. *Style* as long as the stamens. *Stigmas* capitate. *Seed* 3 angled.

Grows in ditches and shallow ponds; very common.

Flowers July—September.

As it has been deemed correct to drop Michaux's trivial name of Hydropiperoides from the species to which he affixed it, it would be doubly incorrect to apply it, as Pursh has done, to another species.

8. MITE. Pers.

P. floribus subconfertis, 8-andris, semitrigynis; ochreis hirsutis ciliatisque; foliis lanceolatis, acuminatis, integerrimis, pilosis. E.	Flowers somewhat crowded, octandrous, with the style 3 cleft; stipules hirsute and ciliate; leaves lanceolate, acuminate, entire, hairy.

Persoon Syn. pl. 1. p. 446. Pursh, 1. p. 270.
P. Hydropiperoides, Mich. 1. p. 239.
P. barbatum, Walt. p. 131.

Stem decumbent and erect, frequently taking root at the lower joints, terete, branching, hairy towards the summit. *Leaves* slightly acuminate. *Stipules* about an inch long, very hairy, and terminated by a long fringe. *Spikes* 1—2, simple; fascicles generally 4 flowered; bractea of each fascicle ciliate, of the individual flowers glabrous. *Corolla* white. *Style* shorter than the stamens. *Stigmas* capitate. *Seed* 3 angled.

Grows in ditches and ponds.

Flowers July—September.

9. INCARNATUM. E.

P. floribus subconfertis, 6-andris, semidigynis; pedunculis punctatis; och-	Flowers somewhat crowded, hexandrous, with the style 2 cleft;

reis glabris: foliis lanceolatis, supra pubescentibus. E.

peduncles dotted; stipules glabrous; leaves lanceolate, pubescent on the upper surface.

Stem 2—3 feet high, geniculate, slightly angled, glabrous, roughened near the summit with glandular dots. *Leaves* serrulate, glabrous on the under surface, clothed with a very fine pubescence on the upper, 6—8 inches long, 2—3 wide. *Flowers* somewhat paniculate, in several simple spikes, 4—6 flowers in each fascicle. *Corolla* small, sprinkled with glandular dots, at first pale rose-coloured, then white. *Style* as long as the corolla, twice as long as the stamens. *Stigmas* capitate. *Seed* globular, compressed, mucronate

This plant bears great affinity to the P. Pennsylvanicum, with which I believe it has generally been associated. It differs however in the number of stamens: in its flowers, which are much smaller and less crowded: in its leaves, which are larger and less hairy; and in its peduncles, which are never hispid.

Grows in ditches and shallow ponds.

Flowers July—October.

10. PENNSYLVANICUM.

P. floribus confertis, 8-andris, semidigynis: pedunculis hispidis; ochreis glabris: foliis lanceolatis, parce pilosis.

Flowers crowded, octandrous, with the style 2 cleft; peduncles hispid; stipules glabrous; leaves lanceolate, a little hairy.

Sp. pl. 2. p. 448. Walt. p. 132. Mich. 1. p. 240. Pursh, 1. p. 271.

Stem geniculate, angled. *Leaves* slightly acuminate, branches and peduncles roughened with short hairs, secreting from their summits a viscid juice. *Flowers* large, rose-coloured, crowded in the spikes.

Grows in ditches. Found more abundantly towards the Western country. Pursh.

Flowers June—August.

11. ORIENTALE.

P. floribus 7-andris, 2-gynis; foliis ovatis: caule erecto; ochreis hirtis, hypocrateriformibus. Sp. pl. 2. p. 448.

Flowers heptandrous, digynous; leaves ovate; stem erect; stipules hairy, hypocrateriform.

Pursh, 1. p. 272.

An annual plant. *Stem* 3—5 feet high. *Leaves* large, remote, ovate, sometimes slightly cordate, acute and acuminate. *Stipules* short, large. *Flowers* in terminal crowded spikes, large for this genus, sometimes white, but generally of a beautiful rose-colour.

This plant is now become naturalized in our country. It grows in cultivated land and around buildings. Cultivated as an ornamental plant in gardens under the name of persicaria.

Flowers through the summer.

**** Spicis paniculatis.*	**** Spikes in panicles.*

12. **Polygamum.** Ventenat.

P. spicis paniculatis; floribus solitariis, 8-andris, 3-gynis; ochreis oblique truncatis, apice acuminatis; foliis cuneato-obovatis. E.	Spikes paniculate; flowers solitary, octandrous, trigynous; stipules obliquely truncate, acuminate at the summit; leaves wedge shaped, obovate.

Pursh, 1. p. 272.

Polygonella parvifolia, Mich. 2. p. 241.

Perennial? *Stem* 6—8 inches high, erect, branching, glabrous. *Leaves* very small, sessile, and with the stipules glabrous. *Panicle* composed of spikes closely jointed. *Flowers* solitary at each joint. Segments of the *corolla* ovate, obtuse, white.

From my specimens, which however are not good, this plant appears to be very different from the P. articulatum; but Dr. Baldwin, who has seen them both in a living state, appears to consider it doubtful whether this can remain as a distinct species.

Grows in dry, sandy pine barrens; near Columbia, South-Carolina. Dr. Macbride.

Flowers July—September.

***** Foliis basi incisis vel cordatis.*	***** Leaves notched or cordate at base.*

13. **Sagittatum.**

P. floribus capitatis, 8-andris, semitrigynis; caule retrorsum aculeato; foliis sagittatis. Mich. 1. p. 272.	Flowers in heads, octandrous, with the style 3 cleft; stem retrorsely aculeate; leaves sagittate.

Sp. pl. 2. p. 453. Walt. p. 132. Pursh, 1. p. 453.

A weak, decumbent plant, climbing over small shrubs and weeds; the *stem* angled, and sharply serrated, with the serratures bent backwards. *Leaves* nearly sessile, glabrous. *Flowers* axillary and terminal, in small compact heads on very long peduncles.

Grows in wet soils. Very common along the margins of rice fields.

Flowers June—October.

14. Arifolium.

P. floribus distinctis, 6-andris, semidigynis; spicis paucifloris; caule retrorsum aculeato; foliis hastatis. Mich. 1. p. 241.

Flowers distinct, hexandrous, with the style 3 cleft; spikes few flowered; stem retrorsely aculeate; leaves hastate.

Sp. pl 2. p. 453. Walt. p. 132. Pursh, 1. p. 272.

Stem flexuous, prostrate or climbing over small shrubs, angled, towards the summit with capitate hair and a stellated pubescence. *Leaves* on long petioles, hastate, with the auricles acute, pubescent. *Stipules* short, ciliate *Flowers* in terminal and axillary spikes. *Corolla* 4 parted; segments ovate, 2 smaller than the others. *Stamens* 8, short, with as many sterile filaments interposed between the fertile. *Seed* large, ovate, compressed.

Grows with the preceding species. Common.

Flowers June—October.

15. Convolvulus.

P. floribus 8-andris, semitrigynis; foliis oblongis, cordatis; caule angulato, asperiusculo; calycibus fructiferis apteris. Mich 1. p. 241.

Flowers octandrous, with the styles 3 cleft; leaves oblong, cordate; stem angled, roughened; calyx of the mature fruit without wings.

Sp. pl. 2. p. 455. Pursh, 1. p. 273.

A climbing plant, running over small shrubs, fences, &c. annual. *Flowers* in axillary racemes. *Anthers* violet-coloured. Linn.

Grows from Pennsylvania to Carolina. Pursh.

Flowers August—October.

16. Scandens.

P. floribus 8-andris, 3-gynis; foliis lato cordatis; stipulis truncatis, nudis; caule volubili glabra; calycibus fructiferis tripteris. Mich. 1. p. 240.

Flowers octandrous, trigynous; leaves broad cordate; stipules truncate, naked; stem twining, glabrous; calyx of the mature fruit winged.

Sp. pl. 2. p. 456. Pursh, 1. p. 273.

Stem climbing, angled, smooth, bright purple. *Leaves* with the angles extended, obtuse; the margins and veins slightly scabrous.

Stipules short, glabrous, slightly 2-toothed by 2 decurrent nerves. *Flowers* in axillary racemes, the buds or joints a little remote, 2—3 or many flowered. *Corolla* white, the 3 exterior wings with the margins dilated, crenate. *Styles* very short. *Stigmas* globose.

Grows in cultivated places, along fences, &c.

Flowers July—October.

CARDIOSPERMUM. Gen. pl. 680.

Calyx 4-phyllus. *Petala* 4. *Nectarium* 4-phyllum, inæquale. *Capsulæ* 3, connatæ, inflatæ.	*Calyx* 4 leaved. *Petals* 4. *Nectary* 4 leaved, unequal. *Capsules* 3, connate, inflated.

1. Halicacabum.

C. glabrum; foliolis inciso-lobatis, imparibus rhomboideis. Pursh, 1. p. 273.	Glabrous; leaflets incised and lobed, the terminal one rhomboidal.

Sp. pl. 2. p. 467. Mich. 1. p. 242.

A small delicate vine, annual. *Leaves* alternate, irregularly and variously lobed. *Flowers* small, herbaceous. *Calyx* persistent. *Seed* globose, marked at base with a cordate cicatrice.

This plant is occasionally seen in the gardens around Charleston, but has the appearance of an exotic.

Flowers July—October.

SAPINDUS. Gen. pl. 681.

Calyx 4-phyllus, inferus. *Petala* 4. *Capsulæ* carnosæ, connatæ, ventricosæ.	*Calyx* 4 leaved, inferior. *Petals* 4. *Capsules* fleshy, connate, ventricose.

1. Saponaria?

S. foliis glabris, abrupte pinnatis, foliolis ovali-lanceolatis; rachi alato; fructibus sphæricis. Mich. 1. p. 242.	Leaves glabrous, abruptly pinnate, leaflets oval lanceolate; rachis winged; fruit spherical.

Sp. pl. 1. p. 468. Pursh, 1. p. 274.

A small tree, 20—30 feet high, the branches glabrous, somewhat geniculate. *Leaves* composed of 4 pair of leaflets without an odd one; the leaflets not opposite, falcate, oblique, entire. Common *petiole* 6—10 inches long, terete, glabrous, slightly furrowed, not winged. *Flowers* in terminal panicles. Leaves of the *calyx* unequal (2 larger), slightly fringed. *Corolla* 4—6 petalled; petals lanceolate, white; a cluster of hairs near the base of each seems to supply the place of the nectary. *Filaments* 6—8, hairy near the base, as long as the corolla. *Germ* 3 angled. *Styles* united, nearly conical. *Stigmas* obtuse, simple. The base of the germ is surrounded by a yellow, glandular ring, in which the stamens and petals are inserted. *Capsules* 3, united, ventricose, glabrous, of which 1 or 2 are frequently abortive. *Seed* one in each capsule.

This plant appears to differ in several respects from the S. saponaria, as described in the Species Plantarum.

Grows 4 miles below Savannah, and is said to be found along the sea coast of Georgia.

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CLASS IX.

ENNEANDRIA.

MONOGYNIA.	*TRIGYNIA.*
259. LAURUS.	261. PLEEA.
260. ERIOGONUM.	

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LAURUS. GEN. PL. 688.

Calyx 0. *Corolla* calycina 4—6 partita. *Nectarium* glandulis 3. bisetis, ovarium cingentibus. *Filamenta* interiora glandulifera. *Drupa* 1-sperma.	*Calyx* 0. *Corolla* resembling a calyx, 4—6 parted. *Nectary* with 3 two-awned glands surrounding the germ. The interior *filaments* bearing glands. *Drupe* 1 seeded.
* *Foliis perennantibus.*	* *Leaves perennial.*
1. CAROLINENSIS. Mich.	
L. foliis ovali-lanceolatis, coriaceis, subtus glau-	Leaves oval lanceolate, coriaceous, glaucous un-

cis; pedunculis simplicibus, fasciculo paucifloro terminatis; corollæ laciniis exterioribus duplo brevioribus. Mich. 1. p. 245.

derneath; peduncles simple, terminated with a few-flowered fascicle; exterior segments of the corolla half as long as the interior.

Pursh, 1. p. 276.
Laurus Borbonia, Sp. pl. 2. p. 481. Walt. p. 133.

In favourable soils this species of Laurel becomes a handsome tree, 30 feet high, with a diameter of 18 or 20 inches. It is however more commonly a shrub. *Leaves* entire, rigid, glossy. *Flowers* in small clusters, pale yellow, polygamous. *Drupe* dark blue, on a thick, red peduncle.

There are two very distinct varieties of this plant, one, growing in the richest hammock lands, where it is known as the *Red Bay*, and is supposed to indicate a strong soil, is distinguished by its deep green, almost glabrous leaves, and its wood, which is equal to plain mahogany;—the other, which is generally a shrub, growing in pine barren swamps, and forming almost exclusively the growth in what are called "bays" and "bay galls;" has its leaves narrower, pubescent underneath, and of a pale green colour. Both are very aromatic, and are eaten by cattle in the winter season.

Flowers May—June.

2. Catesbyana. Mich.

L. foliis perennantibus, lato-lanceolatis, ramulisque glabris; paniculis breviuscule pedunculatis; corollæ laciniis oblongis, obtusis, subæqualibus, deciduis. Mich. 1. p. 244.

Leaves perennial. broad lanceolate, and with the branches glabrous; panicles on short peduncles; segments of the corolla oblong, obtuse, nearly equal, deciduous.

Pursh, 1. p. 275.

A shrub 6—9 feet high. *Corolla* white, and somewhat rotate. Perfect *stamens* 6. *Nectary* 3 cleft. *Berry* ovate, black. Mich.

Grows on the sea coast of Georgia and Florida; Pursh. In the southern part of Florida; Mich.

Flowers.

*** Foliis deciduis, floribus dioicis.*	*** Leaves deciduous, flowers dioicous.*

3. BENZOIN.

L. foliis obovato-lanceolatis, subtus pubescentibus; floribus glomerato-umbellatis; gemmis pedicellisque glabris.	Leaves obovate lanceolate, pubescent underneath; flowers in clustered umbels; buds and pedicels glabrous.

Sp. pl. 2. p. 485. Walt. p. 133. Pursh, 1. p. 276.
L. Pseudo-Benzoin, Mich. 1. p. 243.

A shrub 4--10 feet high, branches virgate. *Leaves* cuneate at base, of a glaucous or rather whitish hue underneath. *Pedicels* short. *Flowers* pale yellow. *Drupes* red.

Grows along the margins of rivulets.

Flowers March. *Spice-wood.*

4. GENICULATA. Walt.

L. foliis parvulis, ovalibus, lævibus; floribus umbellatis; caule dichotomo, flexuoso.	Leaves small, oval, smooth; flowers in umbels; stem dichotomous, flexuous.

Walt. p. 133. Mich. 1. p. 244. Pursh, 1. p. 276.

A small tree, 10 – 15 feet high, very much branched, with the branches bent and angled in a singular manner, and with much regularity. *Leaves* small, obtuse, smooth, the young ones a little pubescent near the base. Each bud generally 3 flowered. *Flowers* yellow. *Drupes* red.

Grows around ponds, and in shallow water.

Flowers February—March. *Pond-spice.*

5. ÆSTIVALIS.

L. foliis venosis, oblongis, acuminatis, annuis, subtus rugosis; ramis supra axillaribus. Sp. pl. 2. p. 484.	Leaves veined, oblong, acuminate, annual, rugose underneath; branches axillary above.

I have inserted this species from Linnæus, although it is said to be a native of Virginia, merely to recal to it the attention of our botanists. Late writers refer this plant to the L. geniculata, but to that species the description of Linnæus bears no resemblance. To the L. melissæfolia its affinity is much greater; but it is probably a species at present unknown. The description of Gronovius, however, applies to the L. geniculata.

Grows along the margins of rivulets.

Flowers

6. MELISSÆFOLIA. Walt.

L. foliis cordato-lanceolatis. venosis, subtus pubescentibus; floribus glomerato-umbellatis; gemmis pedicellisque villosis. Walt. p. 134.

Leaves cordate lanceolate, veined, pubescent underneath; flowers in clustered umbels; buds and pedicels villous.

L. diospyroides, Mich. 1. p. 244.
L. Diospyrus, Pursh, 1. p. 276.

A small shrub, 2—3 feet high. *Root* creeping. *Leaves* strongly veined, somewhat rugose, pubescent. *Buds* sessile, 3 flowered. *Flowers* yellow. *Drupe* red

Grows around the edges of ponds, particularly those that are frequently dried up.

Flowers February—March.

7. SASSAFRAS.

L. foliis integris lobatisque. Sp. pl. 2. p. 484.

Leaves entire and lobed.

Walt. p. 134. Mich. 1. p. 244. Pursh, 1. p. 277.

A small tree, 15—25 feet high, frequently only a shrub. *Leaves* various, entire, lanceolate, ovate, sometimes 2 or 3 lobed, somewhat rugose, glabrous or pubescent. *Flowers* in umbels, yellow. *Buds* pedicellate. *Stamens* of the sterile flower 9. *Anthers* yellow, 2 lobed, each lobe 2 celled: 6 orange-coloured glands, nearly reniform, fixed round the base of the 3 interior filaments. *Stamens* of the fertile flower 6, short, imperfect. *Germ* superior, ovate. *Style* filiform. *Stigma* capitate, depressed. *Drupe* blue.

Grows in light soils. Very common along fences, and around old fields.

Flowers March—and, like all the species in this section, produces its flowers before the leaves unfold. *Sassafras.*

ERIOGONUM. MICH.

Involucrum campanulatum, multiflorum. *Calyx* subcampanulatus, 6-

Involucrum campanulate, many flowered. *Calyx* somewhat campanu-

fidus. *Corolla* 0. *Semen* 1, triquetrum, calyce tectum.

late, 6 cleft. *Corolla* 0. *Seed* 1, 3-angled, clothed with the calyx.

1. TOMENTOSUM. Mich.

E. foliis ovalibus, basi cuneatis, supra glabris, subtus albo-tomentosis, caulinis ternis quaternisve; florum fasciculis axillaribus, solitariis, sessilibus.

Leaves oval, cuneate at base, glabrous on the upper surface, clothed with a white down on the under, stem leaves by 3s or 4s; clusters of flowers axillary, solitary, sessile.

Mich. 1. p. 246. Push, 1. p. 277.

Root perennial. *Stem* herbaceous, about 2 feet high, branching, and somewhat dichotomous. *Leaves* at each division of the stem 3, sometimes 4, lanceolate, sessile, at the root oblong, tapering at base, all clothed on the under surface, together with the *stem*, *involucrum* and *calyx*, with a close, white tomentum or down. *Stamens* longer than the calyx. *Germ* superior, 3 angled. *Style* very short. *Stigmas* 3, simple. *Seed* acutely 3 angled, clothed with the persistent calyx. Mich.

Grows on the highest sand hills in the middle country of Georgia and Carolina.

Flowers through the summer.

TRIGYNIA.

PLEEA. MICH.

Corolla 6-partita, patens. *Capsula* supera, trigona, trilocularis. *Semina* numerosa, oblonga, margini valvulorum adnata.

Corolla 6 parted, expanding. *Capsule* superior, 3 angled, 3 celled. *Seeds* numerous, oblong, attached to the margin of the valves.

1. TENUIFOLIA. Mich.

Mich. 1. p. 248. Pursh, 1. p. 278.

Root perennial, fibrous or a little tuberous. *Leaves* very narrow, ensiform, like the whole plant glabrous. *Stem* leafy, 1—2 feet high. *Flowers* in a terminal spike. *Sheaths* alternate, acute, one flowered. Segments of the *corolla* lanceolate, acute, of a yellowish red colour. *Stamens* as long as the corolla. *Seeds* terete, slightly bowed, attached by a small stipes to the margin of the valves.

Grows in the open bogs, in lower Carolina; Mich. Near Wilmington, North-Carolina; M. Nuttal.

CLASS X.

DECANDRIA.

MONOGYNIA.

262. BAPTISIA.
263. CERCIS.
264 CASSIA.
265. MELIA.
266. TRIBULUS.
267 MONOTROPA.
268. DIONÆA.
269. JUSSIEUA.
270. KALMIA.
271. LEIOPHYLLUM.
272. RHODODENDRON.
273. ANDROMEDA.
274 VACCINIUM.
275. EPIGÆA.
276. GAULTHERIA.
277. CLETHRA.
278. PYROLA.
279. CHIMAPHILA.
280. STYRAX.
281. HALESIA.
282. MYLOCARIUM.

DIGYNIA.

283. HYDRANGEA.
284. CHRYSOSPLENIUM.
285. SAXIFRAGA.
286. TIARELLA.
287. SAPONARIA.

TRIGYNIA.

288. CUCUBALUS.
289. SILENE.
290 STELLARIA.
291. ARENARIA.
292. BRUNNICHIA.

TETRAGYNIA.

293. MICROPETALUM.

PENTAGYNIA.

294. SPERGULA.
295 CERASTIUM.
296. OXALIS.
297. PENTHORUM.
298. SEDUM.

DECAGYNIA.

299. PHYTOLACCA.

……

BAPTISIA. VENTENAT.

Calyx semi-4—5-fidus, bilabiatus. *Corolla* papilionacea, petalis longitudine subæqualibus: vexillum lateribus reflexis. *Stamina* decidua. *Legumen* ventricosum, pedicellatum, polyspermum.

Calyx 4—5 cleft, bilabiate. *Corolla* papilionaceous, with the petals equal in length; vexillum with the sides reflected. *Stamens* deciduous. *Legume* ventricose, pedicelled, many seeded.

1. PERFOLIATA.

B. glaberrima; foliis perfoliatis, ovalibus, integerrimis, glaucis: floribus axillaribus, solitariis. E.	Very glabrous; leaves perfoliate, oval, entire, glaucous; flowers axillary, solitary.

Rafnia perfoliata. Sp. pl. 3. p. 949.
Sophora perfoliata. Walt. p. 135.
Podalyria perfoliata, Mich. 1. p. 263. Pursh, 1. p. 307.

Root, as in all the species, perennial. *Stem* herbaceous, sparingly branched. *Leaves* simple, entire, generally oval, sometimes nearly round, very smooth and glaucous. *Flowers* small, pale yellow. *Legume* inflated, large. *Seeds* reniform, very small.

Grows in the dry sand hills. Its uncommon foliage renders it an interesting and ornamental plant.

Flowers May—July.

2 LANCEOLATA. Walt.

B pubescens; foliis ternatis, cuneato-lanceolatis, obtusis; floribus axillaribus, solitariis, terminalibus racemosis E.	Pubescent; leaves ternate, cuneate lanceolate, obtuse; flowers axillary, solitary, the terminal ones forming racemes.

Sophora lanceolata, Walt. p. 135.
Podalyria uniflora, Mich. 1. p. 263. Pursh, 1. p. 307.

Stem herbaceous, 2—3 feet high, geniculate, and branching. *Leaves* on very short petioles, entire, emarginate. *Stipules* very minute. *Flowers* of an obscure yellow, solitary, axillary, but at the extremity of the old branches frequently forming terminal racemes; the vexillum deeply emarginate and rather shorter than the other petals.

Grows in dry, sandy soils. Common in the middle districts of Carolina and Georgia

Flowers April—May.

3. TINCTORIA.

B. glaberrima; foliis ternatis, obovatis, apice rotundatis, subsessilibus; racemis terminalibus; floribus luteis. E.	Very glabrous; leaves ternate, obovate, rounded at the summit, nearly sessile; racemes terminal; flowers yellow.

Sophora tinctoria, Walt. p. 134.
Podalyria tinctoria, Sp. pl. 2. p. 503. Mich. 1. p. 265. Pursh, 1. p. 308.

Stem herbaceous, 1—2 feet high, very much branched. *Leaves* small, cuneate at base. *Flowers* small, in terminal racemes, yellow. *Legume* on a long stipes.

Grows in very dry soils.

Flowers June—August. *Wild Indigo.*

4. AUSTRALIS.

B. foliis ternatis, foliolis oblongo-cuneatis, obtusis; stipulis lanceolatis, petiolo duplo longioribus; racemis elongatis; leguminibus acuminatis.	Leaves ternate, leaflets oblong, wedge shaped, obtuse; stipules lanceolate, twice as long as the petiole; racemes long; legume acuminate.

Podalyria australis, Sp. pl. 2. p. 503.
Podalyria cœrulea, Mich. 1. p. 264. . Pursh, 1. p. 307.

Stem herbaceous, often decumbent. *Leaves* glabrous, on very short petioles. *Flowers* blue.

Grows along the margins of rivulets, particularly in the western districts of Carolina. Pursh.

Flowers June—July.

5. VILLOSA. Walt.

B. foliis ternatis, lanceolatis, pubescentibus; caule calycibusque villosis; stipulis linearibus; racemis terminalibus; floribus griseis.	Leaves ternate, lanceolate, pubescent; stem and calyx villous; stipules linear; racemes terminal; flowers grey.

Sophora villosa, Walt. p. 134.
Podalyria villosa, Mich. 1. p. 264. Pursh, 1. p. 307.

Leaves nearly sessile, oval oblong, obtuse, pubescent on the under surface and along the margins. *Calyx* 4 cleft. *Corolla* yellow. Mich.

It is not improbable that Michaux has described, under this name, a different species from that of Walter. This genus will probably yet be much enlarged.

Grows in the middle and upper districts of Carolina.

Flowers June—July.

6. ALBA.

B. ramis divaricatis; foliis ternatis, petiolatis, foliolis cuneato-lanceola-	Branches divaricate; leaves ternate, petiolate, leaflets lanceolate, wedge

tis, obtusis, mucronatis, glabris ; stipulis subulatis, petiolo brevioribus ; racemis terminalibus ; floribus albis.	shaped at base, obtuse, mucronate, glabrous ; stipules subulate, shorter than the petiole ; racemes terminal ; flowers white.

Podalyria alba, Sp. pl. 2. p. 503. Mich. 1. p. 264. Pursh, 1. p. 308.
Sophora alba, Walt. p. 134.

Root perennial, composed of thick, fleshy fibres. ***Stem*** generally simple, 1—2 feet high ; branches near the summit flexuous, expanding, glabrous. *Flowers* in long (1—2 feet) terminal racemes ; the common ***peduncles***, like the branches, dark purple. *Bractea* a subulate leaf at the base of each flower, longer than the peduncle and flower, and falling before its expansion. *Calyx* 4 cleft, the upper segments emarginate. *Stamens* unequal, distinct, shorter than the petals. ***Capsule*** inflated, cylindrical. *Seeds* very small.

Grows in damp, strong soils.
Flowers March—April.

7. BRACTEATA. Muhl. Cat.

B. pubescens ; ramis divaricatis ; foliis ternatis, petiolatis ; foliolis lanceolatis ; racemis axillaribus, reclinatis ; bracteis majusculis, lato-subulatis, persistentibus. E.	Pubescent ; branches divaricate ; leaves ternate, petiolate ; leaflets lanceolate ; racemes axillary, reclined ; bracteas large, wide subulate, persistent.

Stem 1—2 feet high, branching from the base ; branches nearly horizontal. *Leaves* large, lanceolate, rather obtuse, on petioles half an inch long. *Stipules* longer than the petioles. The *racemes* generally proceed from the under side of the branches, and bend to the earth, so that they are frequently not seen unless the branches are raised up. *Bracteas* an inch long, and nearly as wide at base, persistent, giving the racemes a leafy appearance. *Flowers* grey, larger than those of any other species which I have seen.

Grows in dry, rich soils, near Wrightsborough, Columbia county, Georgia.
Flowers April.

These plants, as far as they were known, were formerly comprised by Linnæus in the large and miscellaneous genus Sophora, in which at first he placed nearly all the plants known to him, which, with papilionaceous flowers, had ten distinct stamens. As the species multiplied, and were accurately examined, it was found necessary to subdivide the genus, and our plants were thrown, with a number of species from the Cape of Good Hope, into the genus Podalyria. Recently however, and I think with propriety, the genus Baptisia has been established for the North American species, which now form, perhaps with the exception of the B. perfoliata, a very natural family.

CERCIS. Gen. pl. 696.

Calyx 5-dentatus, inferne gibbus. *Corolla* papilionacea, vexillo sub alis brevi. *Legumen.* (*Folia* simplicia.)	*Calyx* 5 toothed, gibbous at base. *Corolla* papilionaceous, with a short vexillum under the wings. *Seed vessel* a legume. (*Leaves* simple.)

1. Canadensis.

C. foliis subrotundo-cordatis, acuminatis, ad axillas nervorum villosis; leguminibus brevi stipitatis. Mich. 1. p. 265.	Leaves nearly round, cordate, acuminate, villous at the axils of the nerves; legumes on short footstalks.

Sp. pl. 2. p. 508. Walt. p. 135. Pursh, 1. p. 308.

A small tree, 15 to 30 feet high, branches slightly geniculate, bark smooth, of a light grey colour. *Leaves* deciduous, entire. *Flowers* in small axillary racemes, 1 or 2 of which are produced from each bud, bearing 6—8 flowers *Calyx* pubescent at the margin. *Corolla* of a bright rose colour, the vexillum very small within the wings, the keel composed of 2 petals larger than the other parts of the flower and which cohere when young. *Stamens* unequal (5 alternately long), shorter than the corolla. *Nectary?* a small linear gland at the base of the germ. *Legumes* compressed, many seeded.

This tree produces its flowers in great profusion before the leaves are unfolded, and, from the brightness of their colour, is one of the most ornamental trees in our forests. When the leading shoot is cut down it becomes shrubby, producing many suckers from the roots.

Grows in rich, light soils.

Flowers in the beginning of March.

CASSIA. Gen. pl. 700.

Calyx 5-phyllus. *Petala* 5. *Antheræ* supremæ 3 steriles, infimæ 3 rostratæ. *Legumen* superum, 2-valve.	*Calyx* 5 leaved. *Petals* 5. The 3 upper *anthers* sterile, the 3 lower beaked. *Legume* superior, 2 valved.

1. Tora.

C. glabra; foliis 3 jugis, obovatis, ciliatis, exterioribus majoribus, glandula subulata inter inferiora; pedunculis paucifloris axillaribus; leguminibus arcuatis. E.	Glabrous; leaves in 3 pair, obovate, ciliate, the terminal ones the largest, a subulate gland between the lower pair; peduncles few flowered, axillary; legumes curved.

Sp pl. 2 p. 515. Walt. p. 135. Pursh, 1. p. 305.

Annual. *Stem* 3 feet high, branching, a little rough, and sprinkled with hair near the summit. *Leaves* glabrous, slightly mucronate, unequal at base, the lower pair nearly round, the upper somewhat spathulate *Gland* pedicellate, orange-coloured. *Stipules* ensiform, ciliate. Leaves of the *calyx* obtuse, 5 nerved, ciliate. *Petals* obovate, unequal, emarginate, 3 nerved, yellow. *Stamens* 2—3 long, 4—6 of an intermediate size, all much shorter than the corolla. *Anthers* erect, 4 angled, of an olive colour, opening at the summit through a long contracted mouth. *Germ* linear, declining *Style* very short. *Stigma* obtuse. *Legume* about 6 inches long, when young square, when mature terete, curved. *Seeds* numerous, reniform, obliquely truncate.

I have never seen the variety with straight legumes, and cannot therefore determine whether this will form a distinct species.

Grows about buildings, and in dry, cultivated soils. Common.

Flowers August—October.

2. Occidentalis.

C. glabra; foliis 5-jugis, ovato-lanceolatis, acuminatis, margine scabris; pedunculis fasciculatis, paucifloris, axillaribus; leguminibus compressis, falcatis. E.	Glabrous; leaves in 5 pair, ovate lanceolate, acuminate, scabrous along the edges; peduncles clustered, few flowered, axillary; legumes compressed, falcate.

Sp. pl. 2. p. 518. Mich. 1. p. 261. Pursh, 1. p. 305.
Cassia Caroliniana? Walt. p. 135.

Root annual. *Stem* 4—6 feet high, rarely branched, slightly geniculate towards the summit. *Leaves* sometimes, though not often, with six pair of leaflets, rarely if ever 3; leaflets slightly serrulate, unequal at base, the upper one the largest. *Gland*, near the base of the common petiole, globular. *Stipules* lanceolate, acuminate, oblique at base, deciduous. *Flowers* on small racemes, 1—4 in each axil: the racemes 3—6 flowered. *Bractea* at the base of each flower cordate ovate, acuminate, spotted, caducous. *Petals* yellow, without spots at base. *Stamens* 6 fertile, 4 sterile. *Germ* pubescent. *Legume* coriaceous, many seeded (30—50). *Seeds* nearly oval, compressed.

This plant has very rarely 3 pair of leaflets on each leaf, yet I know of no other species to which the C. Caroliniana of Walter can be referred.

Grows around buildings. Very common.

Flowers July—October. *Styptic-weed.*

3. LINEARIS. Mich.

C. glabra; foliis 5—6-jugis, ovatis, acutis; pedunculis axillaribus, paucifloris; leguminibus teretibus. E.

Glabrous; leaves in 5 or 6 pair, ovate, acute; peduncles axillary, few flowered; legumes terete.

Mich. 1. p. 261. Pursh, 1. p. 306.

Very similar in habit and appearance to the preceding species. *Leaves* rather smaller, acute rather than acuminate, with a *gland* at the very base of the petiole. *Racemes* axillary, few flowered (2—4). *Legumes* terete, somewhat curved, many seeded.

Michaux' name for this species is certainly not appropriate; its *terete* legume is its only valid character, and would have supplied an unexceptionable name.

Grows in Carolina; Mich. I have only seen this plant in Michaux' old garden, near Charleston, and know not where he first discovered it.

Flowers August—October.

4. LIGUSTRINA.

C. pubescens; foliis 7-jugis, lanceolatis, extimis minoribus; pedunculis terminalibus, subpaniculatis; leguminibus oblongis, subfalcatis. Pursh, 1. p. 306.

Pubescent; leaves in 7 pair lanceolate, the exterior one smallest; peduncles terminal, somewhat paniculate; legumes oblong, slightly falcate.

Sp. pl. 2. p. 523.

Leaves glabrous, hairy along the margin. *Gland* at the base of the petiole. Linn.

Grows in cultivated ground, from Virginia to Georgia.

Flowers July—August.

5. **Marilandica.**

C. glabriuscula; foliis 8-jugis, oblongo-lanceolatis, mucronatis; racemis axillaribus, multifloris; leguminibus linearibus, arcuatis.

Nearly glabrous; leaves in 8 pair, oblong lanceolate, mucronate; racemes axillary, many flowered; legumes linear, curved.

Sp. pl. 2 p. 524. Walt. p. 135. Mich. 1. p. 261. Pursh, 1. p. 306.

Stem sprinkled with hair. *Leaves* all nearly equal. *Gland* obovate, near the base of the petiole. *Racemes* axillary, but, as in the three preceding species, appearing paniculate at the summit of the stem. *Anthers* dark brown.

Grows in gravelly soils, along the banks of rivers. Pursh.
Flowers June—August.

6. **Chamæcrista.**

C. foliis multijugis, linearibus, glabris: gemmis paucifloris (1—2), supra axillaribus; petalis duobus maculatis; leguminibus villosis. E.

Leaves in many pairs, linear, glabrous; buds few flowered (1—2), above the axils; 2 petals spotted; legumes villous.

Sp. pl. 2. p. 528. Walt. p. 136. Mich. 1. p. 262. Pursh, 1. p. 306.

Annual. *Stem* 1—2 feet high, erect and procumbent, with the branches divaricate, hirsute and scabrous. *Leaves* in 10—15 pair, oblique, oval, but very narrow, mucronate, slightly serrulate, and glaucous underneath, the veins pellucid; petiole hirsute, with a pedicellate cup-shaped gland below the lowest pair of leaflets. *Stipules* subulate, ciliate. *Petals* yellow, 2 sometimes 3 spotted at base with purple. *Stamens* 10, all fertile. *Anthers* 4 yellow, 6 purple. *Legumes* linear, very villous.

Grows in sandy soils; very generally diffused over the country.
Flowers August—September.

7. **Fasciculata.** Mich.

C. glabriuscula: foliis multijugis; fasciculis lateralibus, multifloris; petalis staminibusque concoloribus; leguminibus glabris. Mich. 1. p. 262. Pursh, 1. p. 306.

Nearly glabrous; leaves in many pairs; fascicles lateral, many flowered; petals and stamens of one colour; legumes glabrous.

Leaves in many pairs, the upper are generally in 9 pair. The *gland*, near the middle of the petiole, sessile *Corolla* smaller than that of the C. chamæcrista, yellow. *Legumes* curved. Mich.

Grows in dry cultivated land.

Flowers June—August.

8 NICTITANS.

C. pubescens; foliis multijugis, linearibus; pedunculis fasciculatis, paucifloris, supra axillaribus; floribus pentandris; staminibus æqualibus. E.	Pubescent: leaves in many pairs, linear; peduncles clustered, few flowered, above the axils; flowers pentandrous; stamens equal.

Sp. pl. 2. p. 529. Walt. p. 135. Mich. 1. p. 262. Pursh, 1. p. 307.

Annual. *Stem* 1—2 feet high, erect and procumbent, becoming glabrous when old; branches expanding. *Leaves* in many pairs (16 20), mucronate, gibbous at base. *Gland* below the lowest pair of leaves, turbinate, rather large, truncate at the summit. *Peduncles* generally 3 flowered, sometimes very near the axils *Petals* unequal, yellow, the exterior one much larger than the others. *Filaments* short. *Anthers* purple. *Legumes* oblong, compressed, villous.

Grows in great profusion in old dry pastures. Common in all sandy soils.

Flowers August—October.

9. ASPERA. Muhl. Cat.

C. strigosa, aspera; foliis multijugis, lineari-lanceolatis, ciliatis; pedunculis paucifloris, supra axillaribus; floribus 7--9-andris; staminibus tribus longioribus. E.	Strigose, rough; leaves in many pairs, linear lanceolate, ciliate; peduncles few flowered, above the axils; flowers with 7—9 stamens, 3 longer than the rest.

Annual. *Stem* 1—3 feet high, hispid and rough; branches generally erect *Leaves* in many pairs (24); leaflets fringed, particularly on one margin. *Gland* below the lowest pair of leaves, turbinate, concave at the summit. *Peduncles* generally 3 flowered. *Stamens* irregular, 3 always longer than the rest, the remainder (most frequently [illegible]) unequal. *Anthers* unequal, yellow, elegantly marked along the sides and around the mouth, with a purple line. *Legume* compressed, obtuse, mucronate, marked with transverse purple bands between the seeds, generally containing 6 seeds.

Very similar in habit and appearance to the C. nictitans, with which it grows on the sea islands, and with which it has hitherto been confounded. On Eding's island near Beaufort, common.

Flowers August—October.

MELIA. Gen. pl. 724.

Calyx 5-dentatus. *Petala* 5. *Nectarium* cylindraceum, dentatum, fauce *antheras* gerens. *Drupa* nuce quinqueloculari.	*Calyx* 5 toothed. *Petals* 5. *Nectary* cylindrical, toothed, bearing the *anthers* in the throat. *Drupe* with a 5 celled nut.

1. Azedarach.

M. foliis bipinnatis: foliolis lævibus, ovatis, dentatis. Pers. 1. p. 469.	Leaves bipinnate; leaflets smooth, ovate, toothed.

Sp. pl. 2. p. 558

A tree 30—40 feet high, and in favourable soils sometimes more than 3 feet in diameter, with branches clustered at irregular intervals. *Leaves* deciduous, doubly pinnate: leaflets of a deep green colour, dentate, acuminate, glabrous. *Flowers* in clustered axillary panicles at the summit of the branches, of a lilac colour, and remarkable in their structure for their curious nectary. *Stamens* very short. *Drupe* containing a nut obtusely angular, and enveloped in a soft, yellowish pulp.

This tree, a native of Persia, is now perfectly naturalized in our country, springing from seed in cultivated land and around enclosures with more freedom than most of our native trees. It is now generally cultivated around buildings and in yards, and in many respects merits this preference. It grows more rapidly than any other tree with which we are acquainted, forms a fine shade, retains the beautiful verdure of its leaves until late in the autumn, and is so noxious to insects in general, that it escapes almost entirely their ravages. Within a few years past, however, a species of coccus has been found in the autumn to destroy the leaves of this tree, in the central part of Charleston. Its flowers are ornamental and fragrant. Its timber is said to be durable, and, as its colour is good, it has been recommended for cabinet-maker's work; but the grain is too coarse for fine and ornamental furniture. Its greatest disadvantage is the facility with which it is blown down by high winds; but as a compensation, it bears transplanting, even when old, takes root almost with the facility of an herbaceous plant, and appears to suffer no injury from having its branches lopped off close to the trunk every second year, if necessary, by which means the head can be restrained within proper bounds. The branches make excellent fuel. The fruit ("berries" as they are improperly called) is eaten by domestic animals and birds with impunity, and is a favourite food of the Turdus migratorius.

Grows in most soils, preferring those which are light. The largest trees that I have seen grow in the streets of the city of Savannah. In poor, sandy soils it would be difficult to find a substitute for this tree.

Flowers April *Pride of America—Pride of India*

The bark of the root is considered to be a good vermifuge. Twenty grains of the powdered bark, or four ounces of a saturated decoction are the usual doses given to a child of 7 years old. It is in some measure narcotic, and requires the aid of some cathartic to carry it through the bowels.

TRIBULUS. Gen. pl. 732.

Calyx 5 partitus. *Petala* 5, patentia. *Stylus* 0. *Capsulæ* 5, gibbæ, plerumque spinosæ, polyspermæ.

Calyx 5 parted. *Petals* 5, expanding. *Style* 0. *Capsules* 5, gibbous, commonly spiny, many seeded.

1. Maximus ?

T. foliis subquadrijugis, exterioribus majoribus; pericarpiis decaspermis, muticis. Sp. pl. 2. p. 566.

Leaves generally in 4 pair, the exterior ones largest; pericarps ten seeded, not spiny.

Tribulus terrestris, Muhl. Cat.

A small, prostrate plant. *Stem* pubescent, branching, 1—2 feet long. *Leaves* pinnate, generally with 3, sometimes with 4 pair of leaflets; leaflets unequal, oval, slightly falcate, mucronate, a little hairy, and dotted with crescent shaped dots, the exterior leaflets always the largest. *Stipules* subulate, villous. *Flowers* axillary, solitary, on peduncles about an inch long, erect when expanded, afterwards nodding. *Calyx* persistent. *Petals* obovate, longer than the calyx, marcescent, yellow. *Stamens* unequal, shorter than the corolla, inserted into the base of the germ. *Germ* superior, slightly furrowed. *Style?* longer than the stamens, conical, furrowed. *Stigma* capitate. *Capsules* 10 celled, resembling 10 capsules united, gibbous at base, roughened with tubercles, and pointed with the obtuse styles. *Seed* one in each cell, obovate, compressed, acute at base.

Grows in the streets of the city of Savannah. First noticed by the late Dr. Brickell.

Flowers June—September.

MONOTROPA. Gen. pl. 737.

Calyx 0. *Petala* 10, horum 5 exteriora basi excavata, mellifera. *Capsula* 5-valvis, polysperma.

Calyx 0. *Petals* 10, of which the 5 exterior are excavated at base, and melliferous. *Capsules* 5 valved, many seeded.

1. Uniflora.

M. scapo breviore, crasso, unifloro; squamis approximatis; flore cernuo. Pursh, 1. p. 303.

Scape short, thick, 1 flowered: scales approximate; flower cernuous.

Sp. pl. 2. p. 578. Walt. p. 136. Mich. 1. p. 266.

Roots parasitic, growing from the roots of trees. *Scape* simple, 6—8 inches high, terete, glabrous, succulent, white, generally clustered. *Leaves* merely scales, sessile, ovate, rather obtuse, white, the upper ones longer, oval, and appearing to clothe the base of the corolla. *Flowers* solitary, terminal, cernuous. *Petals* 5? oblong, obovate, gibbous at base, pubescent on the inside particularly near the base, and furnished with a melliferous pore. *Filaments* 10, unequal, shorter than the corolla, pubescent at base: from the base of the shorter filaments 2 subulate, horn-like glands are reflected into the hollow at the base of the petals. *Anthers* reniform, 1 celled, furrowed, opening at each extremity. *Nectary?* one leaved, ventricose, 10 toothed, furrowed, clothing the germ, and forming finally the exterior coat of the capsule? *Germ* superior, ventricose. *Style* thick, as long as the stamens. *Stigma* large, concave, glutinous. *Capsule* 5 angled, 5 celled. *Seeds* very numerous, oblong, striate, attached to a central receptacle.

This plant differs so much in its corolla and nectary from the character of the genus in the Gen. Plant. taken from the M. Hypopithys, that it will probably be correct to re-establish Dillenius's genus Hypopithys, to which perhaps all the many-flowered species will belong. As this is the only species I have seen in a living state, I leave to others their final distribution,

Grows in light, rich soils.

Flowers October—November.

2. Morisoniana. Mich

M. scapo elongato, rectissimo, unifloro: squa-

Scape long, very straight; one flowered;

mis distantibus; flore erecto. Mich. 1. p. 266.

scales distant; flowers erect.

Pursh, 1. p. 303.

Flowers solitary, constantly erect. *Capsule* globose. Mich.
Grows in shady woods. Carolina. Mich.
Flowers

3. Lanuginosa. Mich.

M. scapo spicifloro; bracteis floribusque undique lanuginosis. Mich. 1. p. 266.

Scape bearing flowers in a spike: bracteas and flowers hairy on all sides.

Pursh, 1. p. 303.
Monotropa hypopithys, Walt. p. 136.

Roots as in all the species, parasitic, growing from the roots of trees. *Stem* 8—12 inches high, simple, a little hairy. *Leaves* merely scales, membranaceous, ovate, obtuse, sessile, crowded at base, a little hairy. *Flowers* in a terminal spike, on short peduncles. *Bracteas* resembling the scales. *Petals* oblong, erect. *Stamens* shorter than the petals. Whole plant of a light tan colour.

Grows in shaded, rich soils, in the middle and upper country of Carolina and Georgia. St. Stephens; Dr Macbride.
Flowers

Although not strictly within the limits assigned to this work, I insert the description of a new genus of plants closely allied to the Monotropa, which has been politely communicated to me by the Rev. Lewis de Schweinitz, of Salem, North-Carolina.

I hope, however, that instead of the compound name by which Mr. Schweinitz has designated this genus, to which Botanical critics will object, the name of Schweinitzia may be given to it, to commemorate the services which its discoverer is rendering the botany of the United States: services which will soon be generally and extensively known. And although the attention of Mr. Schweinitz has hitherto been principally directed to the natural order of the Fungi, yet no branch of our botany has escaped his notice, and all will be enriched by his researches.

MONOTROPSIS. Schweinitz.

Calyx 5-phyllus, marcidus; foliolis basi unguiculato-gibbosis, fornicatis, ovato-acuminatis, arcte appressis corollæ, quam longitudine adæquant.

Corolla monophylla, campanulata, carnosa (i. e. substantiæ Monotropæ), rubro-alba: limbo quinquefido, albo, demum reflexo, laciniis ovato-acutis. Ad basin corollæ *nectarium* quinquefidum inclusum corollam quasi gibbosam reddit.

Stamina decem, arcte insidentia inter nectaria germini ; filamenta carneo-rubra ; antheræ luteæ, clavato-saccatæ.

Pistillum unicum, germine-quadrato aut potius pentagona, sub fornicato, globoso insidens, stigmate subgloboso vitreo, 5-valvi, apice poro notato : stipite carnoso duro, stipulis carneis demum marcidis, brunneis obsito.

1. ODORATA.

M. floribus campanulatis, in capitulo agregatis. S.

A small plant, 3—4 inches high, resembling entirely in habit the Monotropa. The *flowers* have the odour of the violet. It grows in rich, shaded lands, in Stokes county, North-Carolina, generally covered with leaves. Flowers February and March.

DIONÆA. GEN. PL. 729.

Calyx 5-phyllus. *Petala* 5. *Stigma* fimbriatum. *Capsula* 1-locularis, gibba, polysperma.	*Calyx* 5 leaved. *Petals* 5. *Stigma* fimbriate. *Capsule* 1 celled, gibbous, many seeded.

1. MUSCIPULA. Sp. pl. 2. p 574.

Walt. p. 144. Mich. 1. p. 267. Pursh, 1. p. 304.

Root perennial. *Leaves* radical, petiolate, 2 lobed, nearly round, folding up, armed along the margin of the upper surface with 3 or 4 short spines. *Petioles* winged (as in the orange leaf), rather longer than the leaf, and without a fringe. *Scape* a span long, erect. *Corymb* terminal. *Peduncles* simple. *Flowers* white. *Petals* streaked.

The leaf of this plant possesses much irritability, so that when an insect falls or alights on its upper surface, it closes, entangling the insect with its spines and fringe, and detaining it as long as it continues to struggle. When the insect becomes quiet the leaf gradually unfolds. Linn. loc. cit

Grows in turfy or sandy bogs, and is very abundant around Wilmington, North-Carolina, but appears to be confined in its habitat.

To General Charles Cotesworth Pinckney, who amidst the avocations of a long life actively and honorably devoted to the service of his country, has paid much attention to its botany, I am indebted for the only locality of this plant in this state with which I am acquainted. He informs me that it grows plentifully on the margins of the creeks running into the Santee river from the south, between Lynch's Ferry and the sea : particularly at Collin's & Boaman's bridges.

Walter also considered it as a native of this state.

Flowers April—May.

JUSSIEUA. Gen. pl. 741.

Calyx 4—5-partitus, superus. *Petala* 4—5. *Capsula* 4—5-locularis, oblonga, angulis dehiscens, calyce coronata. *Semina* numerosa, minuta.

Calyx 4—5 parted, superior. *Petals* 4—5. *Capsule* 4—5 celled, oblong, opening at the angles, crowned with the calyx. *Seeds* numerous, minute.

1. Grandiflora. Mich.

J. repens; caule erecto ascendentique; foliis lanceolatis, integerrimis, pedunculis calycibusque villosis; floribus decandris. Mich. 1. p. 267.

Creeping; stem erect and ascending; leaves lanceolate, entire, with the peduncles and calyx villous; flowers decandrous.

Pursh, 1. p. 304.

Root perennial. *Stem* 2—3 feet high, a little branched, swollen at intervals, when young very villous. *Leaves* sessile, acute, very villous on the under surface, the base of the old elongated. *Flowers* solitary, axillary, on peduncles 1—2 inches long, which before and after flowering are cernuous. *Calyx* 5 parted, segments very acute. *Corolla* 5 petalled; petals obovate, yellow, about an inch long. *Stamens* 10, unequal, much shorter than the corolla. *Filaments* inserted into the summit of the germ, with glands interposed between them. *Germ* inferior, 5 angled. *Style* clavate. *Stigma* capitate, depressed in the centre.

Like many creeping plants, this species of Jussieua appears to ripen its seeds rarely. I have never been able to find a mature capsule.

Grows in bogs and ditches. Common around Savannah. In ponds 4 miles from Charleston.

Flowers May—August.

KALMIA. Gen. pl. 743.

Calyx 5-partitus. *Corolla* hypocrateriformis, limbo subtus 5-corni, in quorum foveis antheræ

Calyx 5 parted. *Corolla* hypocrateriform, with the border underneath 5-horned, in the hollow of

incumbunt. *Capsula* 5-locularis.	which the anthers rest. *Capsule* 5 celled.

1. LATIFOLIA.

K. foliis longe petiolatis, sparsis, ternisque, ovalibus, coriaceis, utrinque lævigatis; corymbis terminalibus, viscido-pubescentibus. Mich. 1. p. 258.	Leaves on long footstalks, scattered and by threes, oval, coriaceous, smooth on each side; corymbs terminal, viscid and pubescent.

Sp. pl 2. p. 600. Walt. p. 138. Pursh. 1 p. 296.

A shrub 4--12 feet high, with branches very crooked and irregular. *Leaves* perennial, glossy, entire, nearly of the same colour on each surface. *Flowers* in large terminal corymbs. *Corolla* somewhat cup shaped, with 10 angles or prominences (5 of which are larger than the rest) on the under side, of a beautiful rose colour, marbled and variegated with deeper and lighter tints *Stamens* much shorter than the corolla. *Germ* superior

This is probably the most ornamental shrub in the forests of North-America. Its foliage is handsome and perennial, and its flowers, which are produced in great profusion, are no less elegant in their form than beautiful in their colour. They possess however no fragrance, and the leaves are said to be deleterious to animals.

Grows on the sides of hills and along the rocky margins of rivulets. Common in the upper country, not found in the lower, although it descends along the margins of the large rivers to within 30 or 40 miles of the ocean. Sisters Ferry, on Savannah river.

Flowers April. *Ivy bush—Calico bush or flower.*

The leaves are generally supposed to be poisonous. According to Barton they are often used in Pennsylvania as a remedy for itch and other cutaneous diseases. A decoction of the leaves is used as a wash, or the powdered leaves may be mixed with hog's lard and applied as an ointment.

2. ANGUSTIFOLIA.

K. foliis ternis, petiolatis, oblongis, obtusis, subtus subferrugineis; corymbis lateralibus; bracteis linearibus; pedunculis calycibusque glandu-	Leaves by threes, petiolate, oblong, obtuse, slightly ferruginous underneath; corymbs lateral; bracteas linear; peduncles and calyx cov-

loso-pubescentibus.——Pursh, 1. p. 296.

ered with a glandular pubescence.

Sp. pl. 2. p. 601. Mich. 1. p. 257.

A shrub, generally about 2 feet high, with creeping roots. *Leaves* entire, elliptical, sometimes glaucous. *Flowers* in small lateral corymbs. *Corolla* smaller than that of the preceding species, of a deep rose colour.

This is also a very ornamental plant, and merits a place in every garden.

Flowers April—May.

3. CUNEATA.

K. foliis sparsis, sessilibus, cuneato-oblongis, subtus pubescentibus, apice minutim aristatis; corymbis lateralibus, paucifloris. Mich. 1. p. 257.

Leaves scattered, sessile, wedge shaped, oblong, pubescent underneath, at the summit slightly awned; corymbs lateral, few flowered.

Pursh, 1. p. 296.

Nearly resembling the K. angustifolia, but very distinct. *Flowers* white, red near the bottom. Mich.

Grows on the head branches of Black river, Georgetown district, South-Carolina?

Flowers

4. HIRSUTA. Walt.

K. ramis, foliis, calycibusque hirsutis; foliis oppositis alternisque, sub sessilibus, lanceolatis; pedunculis axillaribus, solitariis, unifloris, foliis longioribus. Mich. 1. p. 257.

Branches, leaves and calyx hairy; leaves opposite and alternate, nearly sessile, lanceolate; peduncles axillary, solitary, 1 flowered, longer than the leaves.

Walt. p. 138. Pursh, 1. p. 295.

A small shrub, 10—18 inches high, branching, very hairy. *Leaves* small, lanceolate, acute, shining but hairy. *Flowers* solitary, on peduncles nearly an inch long. *Corolla* nearly the size of that of the K. angustifolia, rose coloured.

This little shrub grows in great abundance in wet, sandy pine barrens. The flowers are handsome, but as they are solitary, the plant is not so ornamental as its congeners.

Flowers May—September.

K. angustifolia and *hirsuta*.—The leaves of these species are often used by negroes and the poorer white people of this state as a cure for itch and the mange of dogs. A strong decoction is prepared and applied warm to the eruptions; the most severe smarting follows the application, but it is so efficient that its repetition is seldom necessary. It may be observed that the leaves of the Andromeda nitida are supposed to be equally efficacious and stimulating.

LEIOPHYLLUM. Pers. Syn. pl. 477.

Calyx profunde 5-partitus. *Petala* 5. *Stamina* exserta. *Capsula* 5 locularis, apice dehiscens.	*Calyx* deeply 5 parted. *Petals* 5. *Stamens* exserted. *Capsule* 5 celled, opening at the summit.

1. Buxifolium.

Ledum buxifolium. Sp. pl. 2. p. 602. Mich. 1. p. 260.
Ammyrsine buxifolia, Pursh, 1. p. 301.

A small shrub 6—18 inches high, branching, glabrous. *Leaves* small, oval lanceolate, entire, glabrous, lucid, with the margins revolute. *Flowers* in small terminal corymbs. *Calyx* persistent. *Corolla* white.

This plant has until lately been attached to the genus Ledum: it differs however in its calyx, corolla and capsule. I have preferred the name originally proposed for it by Persoon to the one employed by Pursh: as we have in botany an Ammi and a Myrsine already.

Grows on the mountains in Greenville district, South-Carolina. Mrs Moulins.

Flowers May—June.

RHODODENDRON. Gen. pl. 746.

Calyx 5-partitus. *Corolla* sub-infundibuliformis, inæqualis. *Stamina* declinata. *Capsula* 5-locularis	*Calyx* 5-parted. *Corolla* somewhat funnel shaped, unequal. *Stamens* declined. *Capsule* 5 celled.

1. Maximum.

R. arborescens; foliis oblongis, acutis, subtus discoloribus; umbellis terminalibus; calycis laciniis	Arborescent; leaves oblong, acute, with the under surface of a different colour; umbels ter-

ovalibus, obtusis; corollis campanulatis. Pursh, 1. p. 297.

minal; segments of the calyx oval, obtuse; corolla campanulate.

Sp. pl. 2. p. 606. Mich. 1. p. 259.

A shrub of the largest size, from 4– 20 feet high. *Leaves* large, thick, coriaceous, perennial, entire, whitish or ferruginous on the under surface. *Flowers* in a compact, cone-like raceme, covered when young with large, ovate, acuminate, ferruginous bracteas. *Corolla* large, of an irregular funnel shape. *Stamens* declining to one side, longer than the corolla. *Germ* superior. *Style* as long as the stamens.

Pursh describes three varieties of this beautiful shrub.

Var. *a. roseum;* with the corrolla of a pale rose colour; the segments nearly round; leaves obtuse at base.
- *b. album;* with the corolla smaller, white; segments oblong; leaves acute at base.
- *c. purpureum;* with the corolla purple; segments oblong; leaves obtuse at base, green on each surface. This last variety grows to a large size, sometimes is found with a stem 18 inches in diameter.

This beautiful shrub grows in great profusion on the margins of mountain streams and lakes. It not only is not found in the low country, but has never been reared to my knowledge in gardens. It appears to require cool and perennial streams for its nourishment and support.

Flowers June—July. *Mountain laurel.*

Its leaves are destructive to animals when forced by the severity of the winter to browse on them.

2. PUNCTATUM.

R. foliis ovali-lanceolatis, glabris, subtus resinoso-punctatis; umbellis terminalibus; corollis infundibuliformibus; capsulis elongatis.

Leaves oval lanceolate, glabrous, with resinous dots underneath; umbels terminal; corolla funnel shaped; capsules long.

Sp. pl. 2. p. 607. Pursh, 1. p. 298.
Rhododendron minus, Mich. 1. p. 258.

A shrub 4–6 feet high, with straggling branches. *Leaves* oblong, sometimes acuminate, ferruginous underneath. *Flowers* in compact, terminal racemes. *Pedicels* short. Teeth of the *calyx* very short. *Corolla* pale red; segments oval or ovate, a little undulate, smaller than those of the preceding species.

Grows abundantly on the head waters of the long rivers of Carolina and Georgia, particularly on the Tugoloo branches of the Savannah.

Flowers June—July.

3. CATAWBIENSE. Mich.

R. foliis brevi-ovalibus, utrinque rotundato-obtusis: umbellis terminalibus: calycis laciniis angusto-oblongis; corollis campanulatis. Mich. 1. p. 258.	Leaves short. oval, round and obtuse at each end; umbels terminal; segments of the calyx narrow oblong; corolla campanulate.

Pursh, 1. p. 298.

A shrub 3—4 feet high. *Leaves* glabrous, of a paler colour on the under surface. *Flowers* bright red.

Grows on the summits of the highest mountains—not along the streams, where the other species delight to dwell.

Flowers

In the specific characters I have retained the term umbel, the flowers however are certainly in compact, cone-like racemes.

ANDROMEDA. GEN. PL. 747.

Calyx 5-partitus. *Corolla* ovata, ore quinquefido. *Capsula* supera, 5-locularis, valvulis dissepimento contrariis.	*Calyx* 5 parted. *Corolla* ovate, with the mouth 5 cleft. *Capsule* superior, 5 celled, with the dissepiment in the middle of the valves.
* *Foliis sempervirentibus.*	* *Leaves perennial.*

1. CALYCULATA

A. foliis ovalibus, squamoso-punctatis, obsolete serrulatis; bracteis binis, ovatis; racemis terminalibus, foliosis, secundis; pedunculis solitariis, axillaribus.	Leaves oval, with scaly dots, obsoletely serrulate; bracteas two, ovate; racemes terminal, leafy, secund; peduncles solitary, axillary.

Sp. pl. 2. p. 614. Mich. 1. p. 254. Pursh, 1. p. 291.

A shrub 2—5 feet high. *Leaves* coriaceous, obtuse, mucronate, ferruginous underneath sometimes cuneate at base. *Peduncles* about 2 lines long. Segments of the *calyx* acute. *Bracteas* 2, ovate, acuminate at the base of the calyx. *Corolla* cylindrical, white. *Stamens* included. *Anthers* unawned.

Grows on the Saluda mountains. Dr. Macbride.

Flowers April—May—occasionally through the summer.

2. ANGUSTIFOLIA. Pursh.

A. foliis lineari-lanceolatis, acutis, squamoso-punctatis; bracteis binis, minutis, acutis; racemis terminalibus, foliosis, secundis; pedunculis solitariis, axillaribus. Pursh, 1. p. 291.

Leaves linear lanceolate, acute, with scaly dots; bracteas 2, minute, acute; racemes terminal, leafy, secund; peduncles solitary, axillary.

Andromeda calyculata, *var. c.* angustifolia, Sp. pl. 2. p. 614.

Leaves slightly ferruginous underneath, with the margins revolute. Segments of the *calyx* acuminate. *Corolla* oblong, oval. Pursh.

This plant has been formed by Pursh from one of the varieties of the A. calyculata, it appears however scarcely to have character enough for a distinct species.

Grows in open swamps. Carolina and Georgia. Pursh.

Flowers April—May.

3. NITIDA. Walt.

A. glaberrima, ramis flexuosis, triquetris; foliis ovalibus, acuminatis, integerrimis, trinervibus; pedunculis fasciculatis, unifloris, axillaribus; corollis cylindricis; antheris basi bicorniculatis. E.

Very glabrous; branches flexuous, 3 angled; leaves oval, acuminate, entire, 3 nerved; peduncles clustered, 1 flowered, axillary; corolla cylindrical; anthers at base 2 horned.

Walt. p. 137. Mich. 1. p. 252. Pursh, 1. p. 292.
A. coriacea, Sp. pl. 2. p. 613.

A shrub 3—6 feet high. *Root* creeping. *Stem* angled, branching; branches virgate, 3 angled. *Leaves* on very short petioles, coriaceous, the margins revolute, bordered by the nerves and dotted underneath. *Flowers* 6—10 in each axil, cernuous. *Calyx* purple; segments acute. *Corolla* much longer than the calyx, white, tinged with pink.

The flowers of this plant have a very strong and almost disagreeable smell of honey. From the number of flowers of each axil the vigorous branches exhibit the appearance of compact racemes.

Grows in springy, sandy swamps and galls; considered as indicating what is generally called sour land, but is also found in the richest swamps.

Flowers March—April. *Male whortleberry—Arborea—Sour wood—Sorrel tree.*

The leaves are agreeably acid. In autumn, two weeks previously to dropping, they become bright scarlet, and form a conspicuous object in autumnal forest scenery. The upright younger branches are very straight, and when deprived of their pith make good pipe stems. The bark, with copperas, forms a purple dye.

4. Rhomboidalis.

A. ramis floriferis triquetris; foliis rhomboidalibus lanceolatisque, integerrimis, cartilagineis, glabris, glandula terminatis; pedunculis aggregatis, axillaribus. Pers. 1. p. 481.

Flower bearing branches 3 angled; leaves rhomboidal and lanceolate, entire, cartilaginous, glabrous, terminated by a gland; peduncles clustered, axillary.

Grows in Carolina and Florida.
Flowers

5. Axillaris.

A. foliis ovali-lanceotis, acuminatis, coriaceis, lucidis, spinuloso-serratis; racemis axillaribus, confertifloris; corollis oblongo-ovatis; antheris summitate bicorniculatis. E.

Leaves oval lanceolate, acuminate, coriaceous, lucid, with spiny serratures; racemes axillary, closely flowered; corolla oblong ovate: anthers at the summit 2 horned.

Sp. pl. 2. p 613. Mich. 1. p. 253.
A. Catesbæi, Walt. p. .
A. spinulosa, Pursh, 1. p. 298.
A. axillaris ? Pursh, 1. p. 297.

A shrub 2—4 feet high. *Root* creeping. *Stem* flexuous, terete, sparingly branched: the branches virgate, when young pubescent. *Leaves* deep green on the upper surface, paler underneath and sprinkled with hairs, the serratures acute and rigid. *Racemes* 2—3 inches long, sometimes paniculate. *Bracteas* 1 small, pubescent, greenish leaf at the base of each peduncle; 2 glabrous, white, at the base of the calyx: all ovate acute. *Calyx* very small, white. *Corolla* white. *Stamens* scarcely one third the length of the corolla. *Style* longer than the stamens.

The plant I have described (the A. spinulosa of Pursh), is extensively diffused over the low country of Carolina and Georgia, though by no means so common as the preceding species. The mountain variety (the A. axillaris of Pursh) has never appeared to me to be sufficiently distinct to form another species. It is distinguished principally, if not altogether, by more compact racemes and narrower leaves.

Grows on the margins of swamps.

Flowers February—April—sometimes in November.

6. ACUMINATA.

A. glaberrima; foliis ovato-lanceolatis, superne angustatis acuminatisque, subintegerrimis, coriaceis, reticulatis; racemis axillaribus; corollis cylindraceis; antheris muticis, postice gibbis.	Very glabrous; leaves ovate lanceolate, tapering towards the summit and acuminate, nearly entire, coriaceous, reticulate; racemes axillary; corolla cylindrical; anthers unawned, gibbous near the base.

Sp. pl. 2. p. 613. Pursh, 1. p. 293.
A. reticulata, Walt. p
— laurina, Mich. 1. p. 253.
— formosissima, Bartram.

A handsome shrub, 3—10 or 12 feet high. *Stem* erect, branches very straight and hollow. *Leaves* sometimes slightly serrate. *Racemes* short, sometimes compound. *Flowers* white, nodding.

Grows along the margins of swamps. Rare in the low country of Carolina. Near Black Swamp, on the road from Coosawhatchie to the Sisters Ferry is the only place at which I have seen it near the sea coast. More common in Florida.

Flowers April ?

7. FLORIBUNDA. Pursh.

A glaberrima; foliis oblongo-ovatis, acutis, tenuissime serrulatis, coriaceis; racemis secundis, axillaribus paniculato-terminalibusque Pursh, 1. p. 293.	Very glabrous; leaves oblong ovate, acute, slightly serrulate, coriaceous; racemes secund, axillary and forming terminal panicles.

Leaves sometimes slightly ciliate. *Flowers* white, with 2 bracteas at the base of the calyx.

This species, which I have not seen, appears to be very closely allied to the preceding.

Collected among the mountains of Georgia, by Mr. Lyon.

Flowers May—June.

8. FERRUGINEA.

A. fruticosa; foliis coriaceis, distantibus, longe-petiolatis. obovatis, plerumque obtusis, integerrimis, subtus squamoso-farinosis, reticulato-venosis; pedicellis aggregatis, unifloris, axillaribus; corollis globosis; antheris muticis. Pursh, 1. p. 292.

Shrubby; leaves coriaceous, distant, on long petioles, obovate, generally obtuse, entire, with dust-like scales, and veiny underneath; pedicels aggregate, one flowered, axillary; corolla globose; anthers unawned.

Sp. pl. 2. p. 609. Walt. p. 138. Mich. 1. p. 252. *var. b* fruticosa.

A shrub 3 - 5 feet high; branches somewhat flexuous, very entire, generally flat, with the margins revolute *Pedicels* simple. *Flowers* small, globose, white on the inside, ferruginous on the outside. *Stamens* included.

Grows in sandy pine barrens.

Flowers June. Mich.

9. RIGIDA. Pursh.

A. arborescens; foliis confertis, brevi-petiolatis, cuneato-lanceolatis, acutis, subtus squamoso-tomentosis, subaveniis; pedicellis aggregatis, axillaribus, unifloris; corollis subglobosis; antheris muticis. Pursh, 1. p. 292.

Arborescent; leaves crowded, on short petioles, lanceolate, acute at each end, scaly and tomentose underneath, without veins; pedicels aggregate, axillary, one flowered; corolla nearly globose; anthers unawned.

Andromeda ferruginea, *var. a.* Mich. 1. p. 252.

A small tree 15—20 feet high; branches rigid. *Leaves* rigid, entire, convex, with the margins revolute. *Pedicels* simple, very numerous. *Flowers* small, globose, ferruginous. *Stamens* included.

These two species are nearly allied In both, the young shoots are of a bright ferruginous colour, though one with age becomes grey underneath. The different periods of flowering, as they were determined by Michaux from cultivation, mark a difference of habit; yet in the woods this difference is not obvious, but there appears to be a constant succession of flowers from April to June.

Grows in sandy pine barrens. In the southern parts of Georgia and Florida the largest specimens are to be found.

Flowers June. Mich.

** *Foliis deciduis.*	** *Leaves deciduous.*
10. LIGUSTRINA. A. pubescens ; foliis obovato-lanceolatis, acuminatis, tenuissime serrulatis ; ramis floriferis terminalibus, paniculatis, nudiusculis ; corollis subglobosis ; antheris muticis.	Pubescent ; leaves obovate lanceolate, acuminate, very finely serrulate ; flower bearing branches terminal, paniculate, naked ; corolla nearly globose ; anthers unawned.

Andromeda paniculata, Pursh, 1. p. 295. Mich. 1. p. 254. *var. a.* nudiflora.
Vaccinium ligustrinum, Linn.

A shrub, varying in height from 3—15 feet ; branches straggling and irregular. *Leaves* nearly sessile, so finely serrulate as sometimes to appear entire *Panicles* terminal, with 1 or 2 small leaves occasionally near the base of the branches. *Peduncles* clustered at each bud (3—6), short, naked, 1 flowered. *Corolla* small, white, pubescent.

To the accurate and extensive researches of Dr. Muhlenberg, American botanists are indebted for the real history of this plant. It appears to have been the original Vaccinium ligustrinum of Linnæus ; it certainly agrees with the Linnæan description of that plant as far as it extends. Modern botanists have viewed it as the Andromeda paniculata of Linnæus, but whoever attends to the description of that plant, in the early editions of the Species Plantarum, will readily perceive that its great author must have had a very different one in view.

The A. racemosa, Walt. p. 138, probably belongs to this species.

Grows in swamps, galls, and generally in damp soils.

Flowers May—June.

11. FRONDOSA. Muhl. Cat.	
A. pubescens ; foliis obovato-lanceolatis, acutis, serrulatis, tomentosis ; ramis floriferis paniculatis, foliosis ; corollis globosis ; antheris aristatis. Pursh, 1. p. 295.	Pubescent ; leaves obovate lanceolate, acute, serrulate, tomentose ; flower bearing branches paniculate, leafy ; corolla globose ; anthers awned.

Andromeda paniculata, *var. b.* foliosiflora, Mich. 1. p. 254.

A shrub, 3—5 feet high. *Leaves* nearly sessile, generally acute, sometimes acuminate, tomentose on both surfaces. *Flowers* frequently in compact, cylindrical panicles 12—18 inches long. *Pedicels* short, simple, aggregated (2—5 at each bud.) *Corolla* whitish, hairy.

Grows in damp, cold soils. Common in Chatham county, Georgia. Flowers May—June.

Though placed in this division, the two preceding species generally, in the southern states, retain their foliage through the winter. For the description of their anthers I have relied on Pursh.

12. PANICULATA.

A. racemis secundis, nudis, paniculatis ; corollis subcylindricis ; foliis alternis, oblongis, crenulatis ; antheris aristatis. Sp. pl. ed. p. 564.	Racemes secund, naked, panicled ; corolla nearly cylindrical ; leaves alternate, oblong, crenulate ; anthers awned.

This is the description of the original A. paniculata of Linnæus ; which I have inserted, although considered as a Virginian plant, for the purpose of pointing out the obscurity that still hangs over this genus. Willdenow, in his celebrated edition of this work, has certainly, on the authority of the Hort. Kewensis, substituted some other plant, I should suppose the modern A. paniculata, if the leaves of the latter were ever ovate. Yet the figure of Plukenet and the Herbarium Linnæus ought, where they are accessible, to remove all doubt.

Grows in Virginia.

13. ARBOREA.

A. foliis oblongo-ovalibus, acuminatis, argute serrulatis, glabris ; paniculis terminalibus, polystachyis ; corollis ovato-oblongis, pubescentibus ; antheris muticis. Mich. 1. p. 255.	Leaves oblong oval, acuminate, sharply serrate, glabrous ; panicles terminal, many spiked ; corolla ovate oblong, pubescent ; anthers unawned.

Sp. pl. 2. p. 612. Walt. p. 138. Pursh, 1. p. 295.
Mich. arbres forestieres.

A tree, which in the vallies of the mountains attains a height of 50 or 60 feet, but rarely exceeds 15 or 20 feet in the middle country. *Leaves* long, sharply acuminate, shining, on petioles nearly an inch long. *Flowers* in large, terminal panicles, composed of many simple secund, naked racemes. *Corolla* white. *Anthers* linear.

Grows along the margins of streams and in swamps. Found as low down as St. Johns, Santee, within 40 miles of the ocean.

Flowers June—July.

14. Racemosa.

A. foliis lanceolatis, acutis, serrulatis, supra glabris, subtus pubescentibus; racemis terminalibus, secundis, simplicibus ramosisve; corollis oblongo-ovatis; antheris quadriaristatis	Leaves lanceolate, acute, serrulate, glabrous on the upper, pubescent on the under surface; racemes terminal, secund, simple or branched; corolla oblong ovate; anthers 4 awned.

Mich. 1 p. 255. Pursh, 1. p. 294.
A. paniculata, Walt. p. 138.
A. Catesbæi, Sp. pl. 2. p. .

A shrub 3--5 feet high; branches straggling, not numerous. *Leaves* sometimes slightly acuminate, membranaceous. *Racemes* 2—6 inches long, frequently divided near the base. *Flowers* not strictly secund, but all turn towards the earth. *Bracteas*, one linear lanceolate at the base of each peduncle, two cordate, ovate, acuminate, ciliate, persistent, at the base of the calyx. *Calyx* purple, ciliate; the segments acute. *Corolla* white, furrowed. *Stamens* half the length of the corolla, 2 lobed, each lobe at the summit 2 awned, opening through the terminal pores.

The above description applies to the A racemosa of Michaux, Pursh, and most modern botanists. On turning to the old editions of the Species Plantarum it will appear however very doubtful whether this plant is the original A. racemosa of Linnæus. The contrast he has drawn between that species and the A. arborea appears very unnecessary when the two plants have scarcely any resemblance, and his fourth enumerated difference, if applied to this plant, is incorrect. Willdenow appears to have been aware of this difficulty, and has made of this plant his A. Catesbæi, leaving his own A. racemosa a doubtful species. As if however the subject was not sufficiently confused, he has quoted as a synonyme of his Catesbæi the A. Catesbæi of Walter, which really belongs to the A. axillaris. A conjecture on this subject is all we can offer. The terminal racemes of the A. racemosa of Michaux and of modern botanists, are naked, secund, and sometimes branched. In a luxuriant state it has probably been sent to Linnæus. and formed his A paniculata. His description applies to that plant, and his reference to Catesby, vol 2 fig. 43, which has been supposed an inadvertent error, corroborates this suggestion. His A. racemosa must have borne some resemblance to the A. arborea, and is probably some plant not yet well understood.

Grows around ponds, and in galls and ditches.
Flowers March—May.

15. SPECIOSA.

A foliis ovalibus, obtusis, mucronatis, crenatis, reticulatis; racemis denudatis, aggregatis; corollis campanulatis; antheris quadriaristatis.—Mich. 1. p. 256.

Leaves oval, obtuse, mucronate, crenate, reticulate; racemes naked, aggregate; corolla campanulate; anthers 4 awned.

Pursh, 1. p. 294.

A shrub 3—4 feet high, branching, glabrous. *Leaves* on short petioles, crenate or serrate, finely reticulate. *Flowers* in naked, terminal racemes. *Corolla* white.

Var. *a. nitida;* with leaves oblong obovate, serrate, green on each surface.

b. pulverulenta; with leaves more round, crenate, and coated, as well as the young branches, with a white dust.

Grows in bogs and bay galls. Common in Georgetown district. Dr. Macbride.

Flowers

16. MARIANA.

A. foliis lato-lanceolatis, acutis, integerrimis, coriaceis; ramis floralibus subaphyllis; pedicellis aggregatis; corollis oblongo-ovatis; antheris muticis.

Leaves broad lanceolate, acute, entire, coriaceous; flowering branches nearly naked; pedicels aggregate; corolla ovate; anthers unawned.

Sp. pl. 2. p. 609. Walt. p. 137. Mich. 1. p. 256. Pursh, 1. p. 294.

A small shrub, 2—3 feet high, sparingly branched. *Leaves* with the margins revolute, frequently if not always sprinkled on the under surface with black dots. *Flowers* in clusters at and near the summit of the old branches. *Peduncles* about an inch long, one flowered. *Corolla* white, sometimes tinged with red. *Filaments* hairy at base. *Capsule* ovate, truncate, with the margins of the valves ribbed? and nearly white.

The corolla is larger in this species than in any of the preceding, and the plant, when handsomely formed, is ornamental.

Grows in dry, sandy soils.

Flowers May—August.

VACCINIUM. Gen. pl. 658.

Calyx superus. *Corolla* urceolata aut campanulata, 4—5 fida. *Filamenta* germini inserta. *Bacca* infera, 4—5 locularis, polysperma.	*Calyx* superior. *Corolla* urceolate or campanulate, 4—5 cleft. *Filaments* inserted on the germ. *Berry* inferior, 4—5 celled, many seeded.
* *Foliis perennantibus.*	* *Leaves perennial.*

1. MYRSINITES. Mich.

V. erectum; foliis parvulis sessilibus, ovatis, mucronatis, serrulatis, supra lucidis, subtus punctatis; racemis abbreviatis, bracteatis, axillaribus terminalibusque; corollis urceolatis.	Erect; leaves small, sessile, ovate, mucronate, serrulate, lucid on the upper, dotted on the under surface; racemes short, bracteate, axillary and terminal; corolla urceolate.

Mich. 1. p. 233. Pursh, 1. p. 290.

A small shrub, 1—2 feet high, erect, branching; the young branches pubescent. *Leaves* with glandular punctures on the under surface, pubescent when young. *Calyx* 5 parted; segments acute, red. *Corolla* oblong, pale purple, whitening with age. *Stamens* 10. *Berries* black.

Grows in sandy pine barrens. In Georgia very common.

Flowers March—April.

2. NITIDUM.

V. erectum; ramis distichis; foliis nitidis, obovato-ellipticis, utrinque acutis, glabris, serratis; racemis terminalibus, corymbosis, bracteatis, nutantibus; corollis cylindraceis	Erect; branches distichous; leaves nitid, obovate elliptic, acute at each end, glabrous, serrate; racemes terminal, corymbose, bracteate, nodding; corolla cylindrical.

Bot. reposit. No. 480. Pursh, 1. p. 289.

Flowers pale red. Very nearly allied to the preceding species.

Grows in Carolina. Pursh.

Flowers

3. **CRASSIFOLIUM.**

V. diffusum ; ramis adscendentibus ; foliis oblongo-lanceolatis, utrinque acutis, serratis, rigidis, glabris ; racemis terminalibus, corymbosis ; corollis campanulatis, profunde 5-dentatis.	Diffuse ; branches ascending ; leaves oblong lanceolate, acute at each end, serrate, rigid, glabrous ; racemes terminal, corymbose ; corolla campanulate, deeply 5 parted.

Bot. Repos. No. 105. Pursh, 1. p. 289.

Racemes few flowered, bracteate. *Flowers* nodding. *Calyx* appressed. *Corolla* expanding, pale red ; the segments acute. Pursh.
The two preceding species have been adopted by Pursh from the Botanical Repository They have probably in this country been intermingled and confounded with the V. myrsinites.
Grows in Carolina. Fraser.
Flowers

4. **MYRTIFOLIUM.** Mich.

V. repens, glaberrimum ; foliis petiolatis, ovalibus, lucidis, denticulatis ; fasciculis axillaribus ; corollis campanulatis, brevissime 5-dentatis. Mich. 1. p. 229.	Creeping, very glabrous ; leaves petiolate, oval, lucid, denticulate ; clusters axillary ; corolla campanulate, with 5 short teeth.

Pursh, 1. p. 289.

Leaves with the margins reflected. Clusters of *flowers* nearly sessile, small. *Anthers* unawned at the back. *Berries* small, pedicellate, globose, black. Mich.
Grows in Carolina.
Flowers

** *Foliis deciduis.*	** *Leaves deciduous.*
a. corollis campanulatis.	*a. corolla campanulate.*

5. **ARBOREUM.** Marshall.

V. foliis lato-lanceolatis ovalibusque, serrulatis, mucronatis, supra	Leaves broad lanceolate and oval, serrulate, mucronate, shining on the

nitidis, subtus pubescentibus; racemis foliosis; floribus solitariis, nutantibus; antheris aristatis.	upper, pubescent on the under surface; racemes leafy; flowers solitary, nodding; anthers awned.

Mich. 1. p. 230. Pursh, 1. p. 285.
V. diffusum, Sp. pl. 2. p. 351.
V. mucronatum, Walt. p. 139.

A small tree, 8—20 feet high, producing from the root many suckers; branches, when old, crooked, the young suckers long, straight, pubescent. *Leaves* sometimes nearly round, on short petioles. *Calyx* small, pale green. *Corolla* white, angled, with the border 5 cleft; segments short, acute, reflected. *Stamens* very short. *Filaments* hairy near the summit. *Anthers* incumbent, 2 celled, 2 horned, opening at the summit of the horns; awns shorter than the horns. *Style* longer than the corolla. *Berry* globular, glabrous, black, dry, astringent, but of a flavour not unpleasant.

Grows in dry soils, moderately fertile.

Flowers April—May. Ripens its fruit in October. *Farkleberry.*

The bark of the root is very astringent, and is given in the form of decoction or infusion as a remedy for chronic dysentery and diarrhœa. The dried fruit is equally efficacious and more agreeable to the palate.

6. STAMINEUM.

V. foliis ovali-lanceolatis, subacutis, integerrimis, subtus glaucis; floribus solitariis, axillaribus, nutantibus; antheris excertis, aristatis.	Leaves oval lanceolate, nearly acute, entire, glaucous underneath; flowers solitary, axillary, nodding; anthers exserted, awned.

Sp. pl. 2. p. 349. Walt. p. 139. Mich. 1. p. 227. Pursh, 1. p. 284.

A shrub 2—3 feet high, erect, branching; the young branches pubescent. *Leaves* distinctly veined, glabrous on the upper surface, slightly pubescent on the under; on short petioles. *Peduncles* pubescent, about an inch long. *Corolla* white; segments of the border nearly round, mucronate. *Anthers* at first white, afterwards ferruginous. *Style* longer than the stamens. *Berry* blue, with a glaucous tinge.

A variety of this shrub (perhaps the V. album of Pursh), grows on the summits of the sand hills near Columbia, more humble and bearing larger fruit than in the low country; I cannot however perceive any specific difference between them.

The berries of this species of Vaccinium, of the V. frondosum, and of the V. dumosum, are eaten indiscriminately under the name of *whortle* or *huckle berries.* They are among the most agreeable fruits which our forests produce.

Grows in dry soils, moderately fertile.

Flowers April—Ripens its fruit May—June.

7. **Dumosum.**

V. punctatum; foliis cuneato-obovatis, mucronatis, serrulatis; racemis foliosis; floribus solitariis, axillaribus; antheris inclusis.	Dotted; leaves cuneate obovate, mucronate, serrulate; racemes leafy; flowers solitary, axillary; anthers included.

Botan. Mag. 1106. Pursh, 1. p. 285.
V. frondosum. Mich. 1. p. 230.

A small shrub, with creeping roots. *Stem* erect, about a foot high; the young branches, with the leaves, peduncles and calyx, roughened with glandular dots. *Leaves* nearly sessile, finely serrulate, with the margins revolute. *Flowers* nodding. *Corolla* angled, white. *Style* as long as the corolla. *Berries* nearly black.

Grows in dry, sandy soils.

Flowers April. Ripens its fruit in June.

8. **Frondosum.**

V. foliis ovali-lanceolatis, integerrimis, obtusis, rugosis, subglaucis, pubescentibus, glandulisque irroratis; racemis paucifloris, bracteatis; corollis globoso-campanulatis; antheris inclusis. E.	Leaves oval lanceolate, entire, obtuse, rugose, somewhat glaucous, pubescent, and sprinkled with glandular dots; racemes few flowered, bracteate; corolla globose campanulate; anthers included.

Sp. pl. 2. p. 352. Pursh, 1. p. 285.
V. glaucum, Mich. 1. p. 231.

A shrub about 3 feet high, branching, with the young branches pubescent. *Leaves* nearly sessile, slightly pubescent, sprinkled, as well as the short petioles and young branches, with glandular dots. *Racemes* 6—8 flowered, proceeding from the summit of the last year's wood, therefore below the leaves. *Bracteas*, one obovate, pubescent, at the base of each petiole, and two linear, glabrous, on each petiole. *Corolla* white, tinged with red, contracted at the mouth, and approaching to the urceolate form. *Berries* large, blue.

This is our most common species of Vaccinium, and produces the best flavoured fruit.

Grows in close soils.

Flowers April. Ripens its fruit in June.

9. RESINOSUM.

V. foliis oblongo-ovalibus, plerumque obtusis, integerrimis, atomis resinosis irroratis; racemis lateralibus, secundis, bracteatis; corollis ovatis.	Leaves oblong oval, generally obtuse, entire, sprinkled with resinous dots; racemes lateral, secund, bracteate; corolla ovate.

Sp. pl. 2. p. 352. Pursh, 1. p. 286.

A shrub 3—4 feet high, branching. *Leaves* nearly sessile, sometimes ovate, sprinkled, principally on the under surface, with glandular dots. *Corolla* short. *Stamens* exserted. *Berries* large, black.

Grows in the mountains of Carolina and Georgia.

Flowers April—May.

*** *Corollis urceolatis.*	*** *Corolla urceolate.*

10. CORYMBOSUM.

V. foliis longo-lanceolatis, acutis acuminatisque, serrulatis, junioribus pubescentibus; racemis confertis, subaphyllis, bracteatis; staminibus muticis, inclusis. E.	Leaves long lanceolate acute and acuminate, serrulate, the young ones pubescent; racemes crowded, almost leafless, bracteate; stamens unawned, included.

Sp. pl 2. p. 351. Pursh, 1. p. 286 ?
V. disomorphum, Mich. 1. p. 231.

A shrub 4—8 feet high, geniculate, with a few straggling branches. *Leaves* nearly sessile, very finely serrulate, with a silken lustre on the upper surface. *Racemes* crowded near the naked summit of the stem, 2—3 from each bud, producing flowers before the leaves are expanded. *Corolla* oblong, slightly angled, white, deeply tinged with purple. *Stamens* short. *Filaments* hairy. *Anthers* without awns. *Style* longer than the stamens, but not as long as the corolla. *Berries* large, black.

Grows in swamps, and wet soils. Very common. Fruit indifferent; commonly called *Bil* or *Bullberries.*

Flowers March. Ripens its fruit May—June.

11. VIRGATUM.

V. racemis sessilibus; corollis subcylindraceis; foliis oblongo-ellipticis,	Racemes sessile; corolla nearly cylindrical; leaves oblong elliptic,

serrulatis, deciduis, utrinque glabris; ramis floriferis elongatis. Sp. pl. 2. p 353.

serrulate, deciduous, glabrous on each side; flower-bearing branches long.

Pursh, 1. p. 287.

A shrub 2—3 feet high, the flowering branches nearly leafless. *Racemes* bracteate. *Corolla* contracted at the throat, tinged with red. Segments of the *calyx* reflected. *Style* included. Pursh.

This appears to be too nearly allied to the preceding species. The pubescence is certainly variable, and the leaves, which in the V corymbosum Linnæus considered as entire, are very finely serrulate, so as easily to appear entire in dried specimens.

Grows in swamps, from Virginia to Carolina. Pursh.

Flowers

12. FUSCATUM.

V. foliis oblongis, acutis, serrulatis, glabris; racemis aggregatis, terminalibus, bracteatis; pedicellis longis, nutantibus; calycibus acutis, erectis; stylo subexerto. Pursh, 1. p. 287.

Leaves oblong, acute, serrulate, glabrous; racemes aggregate, terminal, bracteate; pedicels long, nodding; segments of the calyx acute, erect; style generally exserted.

Sp. pl. 2. p. 351.

A handsome small shrub. *Racemes* somewhat corymbose. *Corolla* cylindrical; segments short, erect, white, tinged with red. Pursh.

Grows in the swamps of Carolina and Georgia. Pursh.

Flowers

13. GALEZANS. Mich.

V. foliis sessilibus, cuneato-lanceolatis, serrulatis, pubescentibus; fasciculis sessilibus; staminibus inclusis, muticis; stylo exerto.

Leaves sessile, cuneate lanceolate, serrulate, pubescent; fascicles sessile; stamens included, without awns; style exserted.

Mich. 1. p. 232. Pursh, 1. p. 287.

A small shrub, 1—2 feet high, with creeping roots; young branches dotted, pubescent. Margins of the *leaves* frequently tinged with purple. *Flowers* in axillary clusters, 6—10 flowered. *Peduncles* short, 3—4 bracteas at the base of each. *Corolla* long, slightly angled, white, sometimes tinged with red. *Filaments* very hairy. *Berries* small, black.

Grows in damp, close soils.

Flowers March. Ripens its fruit in June.

14. TENELLUM.

V. ramis angulatis; foliis sessilibus, ovato-lanceolatis, mucronatis, serrulatis, utrinque lucidis; fasciculis subterminalibus, confertifloris. Pursh, 1. p. 288.	Branches angled; leaves sessile, ovate lanceolate, mucronate, serrulate, lucid on each side; fascicles somewhat terminal, closely flowered.

Sp. pl. 2. p. 353.

V. Pennsylvanicum? Mich. 1. p. 232.

A low, branching shrub; branches green. *Calyx* green. *Corolla* ovate, pale red. *Berries* large, bluish black. Pursh.

Grows in dry, gravelly soils. Georgia; Mich.

Flowers

15. MYRTILLOIDES? Mich.

V. foliis lanceolatis, membranaceis, crenulatis, glabris; floribus sparsis, subsolitariis.	Leaves lanceolate, membranaceous, crenulate, glabrous; flowers scattered, generally solitary.

Mich. 1. p. 234. Pursh, 1. p. 288.

I refer here, with much hesitation, a shrub found in our deep river swamps, 6—8 feet high, with branches slender, diffused. *Leaves* small, sessile, lucid, deciduous. *Fruit* axillary, solitary, black, on peduncles about half an inch long.

The corolla I have not seen.

Grows near Savannah river, at Beck's Ferry.

Flowers   Ripens its fruit in June.

EPIGÆA. GEN. PL. 748.

Calyx 5-partitus, extus tribracteatis. *Corolla* hy-	*Calyx* 5 parted, with 3 bracteas at base. *Corol-*

pocrateriformis. *Capsula* 5-locularis, receptaculo 5-partito.	*la* hypocrateriform. *Capsule* 5 celled, with the receptacle 5 parted.

1. Repens.

E. foliis cordato-ovatis, integerrimis, reticulatis; corollis cylindricis. Persoon, 1. p. 482.	Leaves cordate ovate, entire, reticulate; corolla cylindrical.

Sp. pl. 2. p. 615. Walt. p. 139. Mich. 1. p. 250. Pursh, 1. p. 297.

A small shrub, prostrate, creeping, and sometimes almost buried in the sand, in which it delights to grow. Young branches very hispid. *Leaves*, when young, hispid along the midrib, and slightly fringed. *Flowers* in compact, axillary racemes. *Bracteas* nearly as long as the calyx. *Corolla* white, tinged with red, very fragrant. *Stamens* and *style* scarcely longer than the tube of the corolla.

Grows on the sand hills in the middle districts of Carolina and Georgia.

Flowers January—March.

GUALTHERIA. Gen. pl. 749.

Calyx 5-fidus, basi bibracteatus. *Corolla* ovata. *Capsula* 5-locularis, vestita calyce baccato.	*Calyx* 5 cleft, with 2 bracteas at base. *Corolla* ovate. *Capsule* 5 celled, clothed with the berry-like calyx.

1. Procumbens.

G. caule procumbente, ramis erectis; foliis obovatis, basi acutis, rigidis, serratis; floribus paucis, terminalibus, nutantibus.	Stem procumbent, with the branches erect; leaves obovate, acute at base, rigid, serrate; flowers few, terminal, nodding.

Pursh, 1. p. 283. Sp. pl. 2. p. 616. Mich. 1. p. 249.

A small shrub, generally prostrate, the branches naked near the base; the *leaves* somewhat crowded towards the summit, coriaceous, with the margins inflected, serratures fine, remote, acute, terminated, in the young leaf, with a deciduous awn. *Flowers* frequently solitary, white. *Fruit* red, eatable.

Grows in the mountains of Carolina. Dr. Macbride.

Flowers May—July.

CLETHRA. GEN. PL. 751.

Calyx 5-partitus, persistens. *Petala* 5. *Stylus* apice 3-fidus, persistens. *Capsula* 3-locularis, 3-valvis.

Calyx 5 parted, persistent. *Petals* 5. *Style* 3 cleft at the summit, persistent. *Capsule* 3 celled, 3 valved.

1. ALNIFOLIA.

C. foliis cuneato-obovatis, acutis, serratis, utrinque glabris, concoloribus; racemis spicatis, simplicibus, bracteatis, cano-tomentosis.

Leaves cuneate, obovate, acute, serrate, glabrous, and of the same colour on both surfaces; racemes spiked, simple, bracteate, tomentose and hoary.

Pursh, 1. p. 301. Sp. pl. 2. p. 619.

A small shrub, 2—3 feet high. *Leaves* sharply serrate, particularly towards the summit, glabrous and finely veined. *Racemes* terminal. *Corolla*, as in all the species, white.

To the succeeding species this plant bears an entire resemblance, differing only in the villous tomentum with which the C. tomentosa is clothed.

Grows in the upper districts of Carolina and Georgia. Columbia; Mr. Herbemont.

Flowers July—August.

2. TOMENTOSA. La Marck.

C. foliis cuneato-obovatis, acutis, serratis, subtus albo-tomentosis; racemis spicatis, simplicibus, bracteatis, villoso-tomentosis.

Leaves cuneate obovate, acute, serrate, tomentose and white underneath; racemes spiked, simple, bracteate, tomentose and villous.

Lam. Encycl. Meth. 2. p. 46. Pursh, 1. p. 301.
Clethra alnifolia, Walt. p. 136.
C. alnifolia var. tomentosa, Mich. 1. p. 260.

A shrub, 2—4 feet high, with creeping roots, the young branches pubescent, with the pubescence stellular. *Leaves* sometimes acuminate, sharply serrate, scabrous and pubescent on the upper surface. *Racemes* terminal, 4—7 inches long. *Bracteas* shorter than the flowers. *Petals* white, obovate, twice as long as the calyx. *Filaments* longer than the corolla, inserted at the base of the germ, adhering to the petals. *Anthers* sagittate, 2 celled, opening through pores at the extremity of each auricle. *Germ* superior, hairy. *Style* a little longer than the stamens. *Seeds* numerous, ovate, compressed, attached to a large receptacle in the angle of each cell.

Grows in damp soils. Very common.

Flowers July—August.

3. Scabra. Persoon.

C. foliis cuneato-obovatis, acutis. utrinque scabris, grosse serratis; racemis spicatis, subpaniculatis, bracteatis, tomentosis. Pursh, 1. p. 302.	Leaves cuneate obovate, acute, scabrous on both surfaces, with large serratures; racemes spiked, somewhat paniculate, bracteate, tomentose.

Persoon, 1. p. 483.

Serratures of the *leaves* large, uncinate. *Spikes* clothed with a fine down. Pursh.

Found by Mr. Lyon in the western districts of Georgia.

Flowers

4. Paniculata.

C. foliis cuneato-lanceolatis. acutis, serratis, utrinque glabris; panicula terminali, racemiflora, albo-tomentosa.	Leaves cuneate lanceolate, acute, serrate, glabrous on both surfaces; panicle terminal, with the branches racemose, tomentose and white.

Pursh, 1. p. 302. Sp. pl. 2 p. 620.

Leaves narrow, with the serratures acuminate. *Panicle* long. Pursh.

Grows in Carolina. Bartram.

Flowers

5. Acuminata.

C. foliis ovalibus, acuminatis, serratis. utrinque glabris, subtus subglaucis;	Leaves oval, acuminate, serrate, glabrous on both sides, somewhat glaucous

racemis spicatis; bracteis flores superantibus.

underneath; racemes spiked; bracteas longer than the flowers.

Mich. 1. p. 260. Pursh, 1. p. 302.

A small tree. *Leaves* large, on long petioles, obtuse, never cuneate at base. *Spikes* before flowering bristling on all sides with the long *bracteas;* these by culture frequently disappear.

Grows on the high mountains of Carolina.

Flowers

PYROLA. GEN. PL. 572.

Calyx 5-partitus. *Petala* 5. *Stylus* staminibus longior. *Capsula* 5-locularis, angulis dehiscens.

Calyx 5 parted. *Petals* 5. *Style* longer than the stamens. *Capsule* 5 celled, opening at the angles..

1. ROTUNDIFOLIA.

P. foliis rotundatis, obsolete serrulatis; spica floribus undique versis; pistillo declinato.

Leaves nearly round, obsoletely serrulate; spike with the flowers on every side; pistil declined.

Mich. 1. p. 251. Pursh, 1. p. 299. Sp. pl. 2. p. 621.

A small, perennial, creeping? plant. *Leaves* near the surface of the ground, perennial, coriaceous, sometimes obovate. *Spike* 6—10 inches long. *Corolla* white. *Stigma* rotate, with 5 tubercles.

Grows in dry, stony or sandy soils, from Canada to Carolina. Pursh.

Flowers

CHIMAPHILA. PURSH.

Calyx 5-partitus. *Petala* 5. *Stigma* sessile, crassum, orbiculatum. *Antheræ* rostratæ, foramine subbivalvi dehiscentes. *Capsula* 5-locularis, angulis dehiscens.

Calyx 5-parted. *Petals* 5. *Stigma* sessile, thick, orbicular. *Anthers* beaked, opening through a 2valved aperture. *Capsule* 5 celled, opening at the angles.

1. **MACULATA.**

C. foliis lanceolatis, rigide serratis, fascia longitudinali discolore notatis; scapo 2—3-floro; filamentis lanuginosis. Mich. 1. p. 251. Sub Pyrola.

Leaves lanceolate, with rigid serratures, marked with a white longitudinal band; scape 2—3 flowered; filaments woolly.

Pursh, 1. p. 300.
Pyrola maculata, Sp. pl. 2. p. 622. Walt. p. 136.

A small, perennial, creeping plant. *Stems* 2—4 inches high. *Leaves* erect, 2—4 near the base of the stem, coriaceous, rigid, of a bright green colour, variegated in the middle with white. *Flowers* terminal, (2 or 3) somewhat umbelliferous, fragrant. *Corolla* white. *Filaments* a little longer than the germ. *Germ* superior.

Grows in light, rich soils, in the shade of trees. Common.

Flowers April—May.

STYRAX. GEN. PL.

Calyx inferus, limbo 5-dentato. *Corolla* 5-partita. *Drupa* coriacea, exsucca, fovens nucem sphæriceam.

Calyx inferior, with the border 5 toothed. *Corolla* 5 parted. *Drupe* coriaceous, juiceless, inclosing a spherical nut.

1. **GRANDIFOLIUM**

S. foliis lato-obovatis, acuminatis, subtus tomentosis; racemis simplicibus, axillaribus, inferne foliosis.

Leaves broad obovate, acuminate, tomentose underneath; racemes simple, axillary, leafy near the base.

Sp. pl. 2. p. 623. Pursh, 2. p. 450.
S. grandiflorum, Mich. 2. p. 41.
S. officinale, Walt. p. 140.

A shrub, 4—12 feet high, with the young branches pubescent. *Leaves* alternate, large, on short petioles, nearly glabrous on the upper surface, hoary underneath, the tomentum stellated. *Racemes* 15—20 flowered, with a bractea at the base of each peduncle. *Calyx* tomentose; the tube four times as long as the acute segments. *Corolla* white, very fragrant, much larger than the calyx; segments oval, expanding. *Filaments* hairy and united at base, inserted into the base of the corolla. *Anthers* 2 lobed, affixed to the sides of the filaments near the summit. *Germ* with the base clothed by the calyx, many celled (8). *Style* longer than the corolla and stamens. *Stigma* obtuse.

Grows in rich, light soils. More common in the upper districts of Carolina and Georgia than in the lower.

Flowers April.

2. PULVERULENTUM. Mich.

S. foliis ovalibus, acutis, subtus tomentosis; racemis lateralibus, paucifloris, foliosis. E.	Leaves oval, acute, tomentose underneath; racemes lateral, few flowered, leafy.

Mich. 2. p. 41.

A small shrub, with creeping roots, growing in small clumps and rarely exceeding 18 inches in height. *Leaves* nearly sessile, serrulate, a little hairy on the upper surface; pubescence, as in the preceding species, stellular. *Flowers* on small lateral branches, axillary and terminal. *Corolla* smaller than in the S. grandifolium, white, and very fragrant.

I have very rarely seen more than 2 terminal flowers on each raceme.

Grows in flat pine barrens. Common on the south side of the Canouchie river, 6—8 miles above its junction with the Ogeechee. I have never seen it north of the Savannah river.

Flowers March—April.

3. LÆVE. Walt.

S. foliis lanceolatis, utrinque acuminatis, serratis, glabris; racemis lateralibus, foliosis. E.	Leaves lanceolate, acuminate at each end, serrate, glabrous; racemes lateral, leafy.

Sp. pl. 2. p. 624.
S. glabrum, Mich. 2. p. 41. Pursh, 2. p. 450.
S. læve, Walt. p. 140.

A shrub, 4—6 feet high; branches virgate, slightly geniculate. *Leaves*, particularly towards the extremities of the branches, moderately large (2—3 inches long, 1—1½ wide), thick, opaque, with acute, strong, irregular serratures. *Racemes*, or branches, frequently in pairs. *Flowers* axillary and terminal. *Corolla* white, tomentose. *Nut* globular, 1 celled.

Grows along the margins of swamps, in Carolina, 7—8 miles from Charleston, near the Goose-Creek road.

Flowers April.

4. **Glabrum.**

S. foliis ovali-lanceolatis, utrinque acutis, tenuissime serrulatis, membranaceis, glabris; racemis lateralibus, foliosis. E.

Leaves oval lanceolate, acute at each end, finely serrulate, membranaceous, glabrous; racemes lateral, leafy.

Botan. Mag. No. 921.

A shrub, 6—8 feet high, with branches diffuse, spreading. *Leaves* thin, delicate, finely serrulate. *Coro'la* much larger than in the preceding species, nearly glabrous, white.

These two species appear to me to have been confounded by the European botanists. This is distinguished by its thin, oval leaves, and larger flowers; the former by its thick, acuminate leaves, and tomentose corolla. This is pretty certainly the plant figured in the Botanical Magazine; the former evidently the S. læve of Walter. The other references are uncertain.

Grows along the margins of the Ogeechee river, Georgia.

Flowers April.

HALESIA. Gen. pl. 814.

Calyx 4-dentatus, superus. *Corolla* 4-fida, vel 4-petala. *Stamina* 8—12. *Nux* 4-angularis, 2-sperma.

Calyx 4 toothed, superior. *Corolla* 4 cleft or 4 petalled. *Stamens* 8—12. *Nut* 4 angled, 2 seeded.

1. **Tetraptera.**

H. foliis ovali-lanceolatis, acuminatis, serrulatis; corolla quadrifida; floribus dodecandris; fructu subæqualiter tetraptero.

Leaves oval lanceolate, acuminate, serrulate; corolla 4-cleft; flowers dodecandrous; fruit equally 4 winged.

Sp. pl. 2. p 849. Walt. p. 144. Mich. 2. p. 40. Pursh, 2. p. 449.

A small tree, 10—20 feet high. *Leaves* pubescent, a little glaucous underneath, sometimes obovate, on short petioles. *Flowers* in small axillary clusters. *Calyx* superior. *Corolla* campanulate, white, with the border 4 cleft. *Filaments* 10 or 12, shorter than the corolla, hairy at base. *Style* longer than the stamens. ***Stigma*** simple. *Fruit* oblong, 4 winged, with the wings all equal.

Grows in rich, light, dry soils.

Flowers March—April.

2. DIPTERA.

H. foliis ovato, ovalique lanceolatis, acuminatis, serrulatis; corollis tetrapetalis; floribus octandris; fructu compresso, alis duabus majoribus.

Leaves ovate and oval lanceolate, acuminate, serrulate; corolla 4 petalled; flowers octandrous; fruit compressed, with 2 large wings.

Sp. pl. 2. p. 849. Walt. p. 144. Mich. 2. p. 40. Pursh, 2. p. 450.

A small tree, very similar, in size, habit, leaves, and mode of flowering, to the preceding species. *Corolla* large, white, distinctly 4 petalled. *Stamens* generally 8. *Germ* many celled (8). *Fruit* larger than in the H. tetraptera, obovate, compressed, with the two small wings nearly obliterated.

These two plants are remarkable for their smooth streaked bark; their pubescence is stellular; both are very ornamental plants.

In this genus the filaments are united at base, and therefore by many writers it has been placed in the class Monadelphia; but it is united in so many respects with the Styrax, the flowers of both are so generally decandrous, and so many instances occur where the number of stamens is permitted to determine the location of plants, that it appears to me more convenient to place them, where I am persuaded young botanists will generally look for them, in the class Decandria.

Grows ten miles from Savannah, on the Ogeechee road.

Flowers March—April.

MYLOCARIUM. WILLD.

Calyx inferus, 5-fidus. *Petala* quinque. *Stylus* angulis alatis. *Stigma* 3—4 fida. *Capsula* trigona, trilocularis.

Calyx inferior, 5 cleft. *Petals* 5. *Style* with the angles winged. *Stigma* 3—4 cleft. *Capsule* 3 angled, 3 celled.

1. LIGUSTRINUM.

Willd. Enum. Hort. Berol. Pursh, 1. p. 302.

A shrub, 6—15 feet high. *Leaves* perennial, alternate, sessile, cuneate, lanceolate, very entire, coriaceous, glabrous, slightly glau-

-sous underneath. *Flowers* in simple, terminal racemes. *Calyx* small, appearing to be composed of five leaves cohering together. *Petals* obovate, white. *Filaments* dilated at base, unequal, shorter than the corolla.

This very ornamental plant grows in pine barren swamps and galls, in the southern parts of Georgia. It rarely occurs to the north of the Ogeechee river.

Flowers March.

DIGYNIA.

HYDRANGEA. GEN. PL. 760.

Calyx superus, 5-dentatus. *Petala* 5. *Capsula* 2-rostris, foramine inter cornua dehiscens.	*Calyx* superior, 5 toothed. *Petals* 5. *Capsule* 2 beaked, opening through an aperture between the horns.

1. VULGARIS.

H. foliis oblongo-ovatis, basi obtusis, acuminatis, dentatis, subtus glabris; cymis nudis.	Leaves oblong ovate, obtuse at base, acuminate, dentate, glabrous underneath; cymes naked.

Pursh, 1. p. 309. Mich. 1. p 268.
H arborescens, Sp. pl. 2. p 633.

A shrub, 6—8 feet high, with branches and leaves, as in all the genus, opposite. *Leaves* thin, glabrous, pale on the under surface, very conspicuously acuminate, serratures large, acute. *Flowers* in terminal cymes, white, generally without sterile florets.

Grows on the mountains of Carolina.

Flowers May—June.

2. CORDATA. Pursh.

H. foliis lato-ovatis, basi subcordatis, acuminatis, grosse dentatis, sub-	Leaves broad ovate, slightly cordate at base, acuminate, coarsely tooth-

tus glabris; cymis subradiatis. Pursh, 1. p. 309.	ed, glabrous underneath; cymes generally radiate.

This though nearly allied to the preceding, is a very distinct species, and easily known from that by its more robust appearance and larger leaves. Pursh.

I have adopted this species from Pursh without having sufficient means to determine its accuracy. Yet I have noticed in specimens sent me from our mountains, that those with sterile (radiating) flowers have generally a more robust habit, leaves thicker, less acuminate, and more distinctly ovate.

Grows in the mountains and upper country of Carolina and Georgia, along the water courses.

Flowers May—June.

3. NIVEA. Mich.

H. foliis cordato-ovatis, acuminatis, serratis, subtus niveo-tomentosis; cymis radiatis. Mich. 1. p. 269.	Leaves cordate ovate, acuminate, serrate, tomentose and white on the under surface; cymes radiate.

Pursh, 1. p. 309.
H. radiata, Walt. p. 251. Sp. pl. 2. p. 634.

A shrub, 6—8 feet high. *Leaves* rugose, pubescent along the veins of the upper surface, elegantly marked by the silvery whiteness of the under surface. *Flowers* in terminal cymes, with a few sterile florets (3—8) in the circumference, and many fertile florets in the centre of each cyme.

Fertile floret. *Calyx* 1 leaved, 5 toothed. *Corolla* 5 petalled; petals lanceolate, longer than the calyx. *Filaments* 10, unequal, longer than the calyx. *Germ* compressed, oval. *Styles* 2, short. *Stigmas* obtuse, thick.

Sterile floret. *Calyx* 2—3—4 leaved; leaflets large, rounded at the summits, coloured, persistent. *Corolla* 2—3—4 petalled; petals lanceolate, white, much smaller than the calyx. *Stamens* very short. *Rudiments* only of the germ and styles.

Grows in the upper country of Carolina and Georgia, along the lime-stone bluff, below Vance's Ferry, on the Santee river.

Flowers May—June.

4. QUERCIFOLIA. Bartram.

H. foliis oblongis, sinuato-lobatis, dentatis, subtus tomentosis; cymis radiatis, paniculatis.	Leaves oblong, sinuate and lobed, dentate, tomentose underneath; cymes radiate, paniculate.

Sp. pl. 2. p. 634. Pursh, 1. p. 309.

A handsome shrub, 4—5 feet high. *Leaves* variously sinuate, though generally 5 lobed: when young very tomentose, with the veins marked with a ferruginous colour. *Flowers* in long panicles, rather than cymes; sterile *florets* numerous, at first of an obscure white colour, changing afterwards to purple.

First discovered by Bartram, in his travels through the southern states.

Grows near Milledgeville, Georgia.

Flowers May—June.

CHRYSOSPLENIUM. Gen. pl. 788.

Calyx 4-fidus, coloratus. *Corolla* 0. *Capsula* birostris, 1 locularis, polysperma.	*Calyx* 4 cleft, coloured. *Corolla* 0. *Capsule* 2 beaked, 1 celled, many seeded.

1. Oppositifolium.

C. foliis oppositis, subrotundis, basi in petiolum attenuatis, levissime crenatis.	Leaves opposite, nearly round, tapering at base to a petiole, slightly crenate.

Sp. pl. 2. p. 638. Mich. 1. p. 269. Pursh, 1. p. 269.

A small creeping plant. *Roots* perennial. *Stem* herbaceous. *Leaves* membranaceous, glabrous. *Flowers* solitary, axillary, on short peduncles. (Flowers octandrous. Mich.)

Grows near springs and rivulets in the mountains of Carolina and Georgia.

Flowers

SAXIFRAGA. Gen. pl. 761.

Calyx 5-partitus. *Petala* 5. *Capsula* 2-rostris, 1-locularis, polysperma.	*Calyx* 5 parted. *Petals* 5. *Capsule* 2 beaked, 1 celled, many seeded.

1. Virginiensis. Mich.

S. pubescens; foliis ovalibus, obtusis, crenatis, in petiolum decurrentibus; caule subaphyllo,	Pubescent; leaves oval, obtuse, crenate, extending to a petiole; stem nearly leafless, panicula-

paniculato; floribus subsessilibus	ted; flowers nearly sessile.

Mich. 1. p. 269. Pursh, 1. p. 311.

A small, herbaceous plant, with perennial *roots.* Radical *leaves* rather spathulate, lanceolate. *Stem* about a foot high, divided near the summit. *Flowers* crowded near the extremities of the branches, white.

Grows in the mountains of Carolina and Georgia. On the limestone rocks near Vance's Ferry.

Flowers March.

2. LEUCANTHEMIFOLIA.

S. hirsuta; foliis spathulato-ovalibus, acute grosseque dentatis; paniculis elongatis, diffusis; calyce reflexo; petalis inæqualibus.	Hairy; leaves spathulate oval, with acute and large teeth; panicles long, diffuse; calyx reflected; petals unequal.

Mich. 1. p. 268. Pursh, 1. p. 311.

Plant very hairy, particularly towards the base of the scape and leaves. *Leaves* oval, with very large and acute teeth, tapering at base to a stem 3—4 inches long. *Scape* 18—24 inches long. *Panicle* diffuse. *Flowers* small, white variegated with pink and yellow. *Calyx* rigid, reflected, persistent.

Grows near the mountains in the upper districts of Carolina and Georgia. Mr. Herbemont.

Flowers June—September.

3. EROSA. Pursh.

S. glabriuscula; foliis oblongo-lanceolatis, acutis, eroso-dentatis; panicula oblonga; ramis divaricatis. Pursh, 1. p. 311.	Nearly smooth; leaves oblong lanceolate, acute, with erose teeth; panicle oblong; branches divaricate.

Stem naked. *Panicle* very much divided. *Flowers* scattered, on filiform footstalks. In many respects resembling the S. Pennsylvanica. Pursh.

Grows along stony rivulets in the high mountains of Carolina. Pursh.

Flowers June—July.

TIARELLA. GEN. PL. 765.

Calyx 5-partitus, persistens. *Petala* 5, calyci inserta. *Capsula* 1-locularis, 2-valvis, valvula altera majore.	*Calyx* 5 parted, persistent. *Petals* 5, inserted on the calyx. *Capsule* 1 celled, 2 valved, with the valves unequal.

1. **Biternata.** Ventenat.

T foliis biternatis; foliolis ovato-cordatis, obliquis, inciso-lobatis, dentatis; caule folioso; panicula terminali, divaricato-spiciflora.	Leaves biternate; leaflets ovate cordate, oblique, lobes incised and toothed; stem leafy; panicle terminal, divaricate, with the flowers in spikes.

Vent. Malm. 54. Pursh, 1. p. 313.
Spiræa aruncus, *var. b.* hermaphrodita. Mich. 1. p. 294.

Root perennial. *Stem* herbaceous, branching, angular. *Leaves* a little rough, sprinkled along the veins with a glandular pubescence. *Panicle* axillary and terminal. *Peduncles* pubescent, short, with a linear stipule at the base of each. Segments of the *calyx* ovate. *Petals* linear, much longer than the calyx. *Stamens* as long as the petals. *Germs* united at base. *Styles* short, inflected. *Stigmas* obtuse.

To Zaccheus Collins Esq. of Philadelphia, to whom I owe many obligations, I am indebted for fine speciments of this plant, with the reference to Ventenat and Michaux. There is still some obscurity about it. The capsules, as well as I can judge from them in an immature state, are precisely those of Saxifraga, two beaked, opening between the styles. The habit of the plant however is very different from any Saxifraga with which I am acquainted, but to this genus it cannot belong.

Found on the Saluda mountains by Dr. Macbride, flowering as late as August.

SAPONARIA. GEN. PL. 769.

Calyx tubulosus, nudus. *Petala* 5, unguiculata. *Capsula* oblonga, 1-locularis.	*Calyx* tubular, naked. *Petals* 5, clawed. *Capsule* oblong, 1 celled.

1. OFFICINALIS.

S. calycibus cylindricis; foliis ovato-lanceolatis. Sp. pl. 2. p. 667.	Calyx cylindrical; leaves ovate lanceolate.

Pursh, 1. p. 314.

Root perennial, creeping. *Stems* 12—18 inches high, terete, glabrous. *Leaves* opposite, connate, entire, 3 nerved, glabrous. *Flowers* in clustered panicles, white, tinged with pink, frequently double.

A foreign plant, now completely naturalized in the upper districts of Carolina and Georgia.

Flowers through the summer.

TRIGYNIA.

CUCUBALUS. GEN. PL. 771.

Calyx inflatus. *Petala* 5, unguiculata, absque corona ad faucem. *Capsula* 3-locularis.	*Calyx* inflated. *Petals* 5, clawed, without a crown at the throat. *Capsule* 3 celled.

1. STELLATUS.

C. pubescens, erectus; foliolis quaterno-verticillatis, ovali-lanceolatis, longissime acuminatis.—Sp. pl. 2. p. 686.	Pubescent, erect; leaves verticillate by fours, oval lanceolate, with a long acumination.

Mich. 1. p. 271. Pursh, 1. p. 315.

Root perennial. *Stem* herbaceous, about two feet high. *Leaves* remote, sessile and united at base. *Flowers* in lax terminal panicles. Partial *peduncles* nearly an inch long. *Calyx* inflated, 5 parted, with the segments acuminate. *Petals* obovate, somewhat fimbriate, white, with claws as long as the calyx. *Filaments* and *styles* as long as the corolla, very slender. *Capsule* superior, globose, glabrous.

Grows in the middle and upper districts of Carolina in great abundance; not found along the sea coast.

Flowers June—August.

SILENE. GEN. PL. 772.

Calyx cylindricus. *Petala* 5, unguiculata, coronata ad faucem. *Capsula* 3-locularis.	*Calyx* cylindrical. *Petals* 5, clawed, crowned at the throat. *Capsule* 3 celled.

1. QUINQUEVULNERA.

S. hirsuta; foliis cuneato-oblongis, summis linearibus; petalis subrotundis, integerrimis; fructibus erectis alternis — Mich. 1. p. 272.	Hirsute; leaves cuneate oblong, the upper ones linear; petals nearly round, entire; fruit erect, alternate.

Sp. pl. 2. p. 691. Pursh, 1. p. 315.

Plant 8—12 inches high, divided from the base, very hairy. *Leaves* small, the lower ones cuneate lanceolate, gradually diminishing towards the summit of the stem. *Flowers* axillary, solitary, on short peduncles. *Petals* small, of a bright pink colour, with the border pale.

Grows near Mr. Middleton's, on Ashley river; Mr. Moulins. Not common.

Flowers

2. FIMBRIATA. Bald.

S. caule pubescente; foliis obovatis, ciliatis; petalis majusculis, fimbriatis, albis. B.	Stem pubescent; leaves obovate, ciliate; petals large, fimbriate, white.

Stem 6—8 inches high. The two upper pair of *leaves* generally small, lanceolate, pubescent. *Flowers* generally 3, in a terminal fascicle.

A beautiful little plant, highly meriting the attention of the florist. Bald.

Grows in low rich oak land on Flint river, near the Creek Agency.
Flowers April—May.

3. PENNSYLVANICA. Mich.

S. viscido-pubescens; foliis radicalibus cuneatis, caulinis lanceolatis; paniculis trichotomis, ter-	Pubescent, viscid; radical leaves cuneate, stem leaves lanceolate; panicles trichotomous, termi-

minalibus; petalis obtusissimis, leviter crenatis.	nal; petals very obtuse, slightly crenate.

Mich. 1. p. 272. Pursh, 1. p. 316
S. Caroliniana, Walt. p. 142.

Root fibrous, perennial. *Stem* 8—10 inches high, divided from the base, and frequently decumbent. Radical *leaves* 2—3 inches long; leaves of the stem connate; all entire. *Flowers* in small, terminal panicles. *Calyx* slightly ventricose, with the border 5 cleft and erect. Claws of the *petals* rather longer than the calyx, producing, where they begin to dilate, a 2 lobed, coloured leaflet, forming the crown which distinguishes this genus; border expanding, obovate. *Filaments* 10, longer than the calyx, 5 inserted into the claws of the petals, 5 alternating with the petals, coaliting with them at base. *Germ* superior. *Styles* shorter than the stamens. *Stigmas* simple. *Capsule* 3 valved. *Seeds* numerous, attached to a central receptacle.

Var. *a. rosea;* with the petals of a beautiful rose-colour.
b. alba; with the petals white.

Grows—*a.* on the south side of Ashley river, 15 miles from Charleston—*b.* Bucks county, Georgia.
Flowers April.

4. VIRGINICA.

S. viscido-pubescens; foliolis oblongo-lanceolatis, margine asperis; paniculis dichotomis; petalis bifidis; staminibus exertis.	Pubescent, viscid; leaves oblong lanceolate, with the margin rough; panicles dichotomous; petals 2 cleft; stamens exserted.

Sp. pl. 2. p. 702. Mich. 1. p. 272. Pursh, 1. p. 316.
S Catesbæi, Walt. 142.

Root perennial *Stem* generally erect and simple, 12—18 inches high. *Leaves* somewhat connate, lanceolate, acute, tapering at base, slightly fringed, a little hairy on the under surface. *Panicle* dichotomous, compound, with a flower in each division. *Calyx* slightly ventricose, 10 nerved. *Petals* obovate, deeply 2 cleft, of a bright crimson colour. *Stamens* much longer than the calyx. *Stigmas* obtuse. *Capsule* ventricose, 3—5 valved.

This plant certainly varies, with the lobes of the petals entire, and divided (laciniate. Walt.) Yet I am not certain that this name covers two species. Dr. Muhlenberg's authority would countenance this suspicion. Willdenow however refers both his S. Virginica and S. Catebæi to the same figure in Plukenet, t. 203. f. 1.

Grows on James' Island, and in the neighbourhood of Charleston.
Flowers June—July.

5. OVATA. Pursh.

S. foliis ovato-lanceolatis, acuminatis, glabriusculis; racemo terminali, composito; calycibus ovatis; genitalibus excrtis; caule simplici. Pursh, 1. p. 316.	Leaves ovate lanceolate, acuminate, nearly smooth; raceme terminal, compound; calyx ovate; stamens and styles exserted; stem simple.

Flowers white, or pale red.

Grows in the western parts of Georgia and Carolina. Described from specimens in the herbarium of Sir Joseph Banks.

6. ANTIRRHINA.

S foliis angustis, spathulato-lanceolatis, ciliatis; paniculis dichotomis; petalis parvulis, bifidis; staminibus inclusis. E.	Leaves narrow, spathulate lanceolate, ciliate; panicles dichotomous; petals small, 2 cleft; stamens included.

Sp. pl. 2. p. 702. Walt. p. 141. Pursh, 1. p. 316.

Annual. *Stem* 1—2 feet high, pubescent near the base, sometimes spotted. Lower *leaves* spathulate, pubescent along the midrib. *Panicle* dichotomous, with a flower in each division. *Calyx* 10 nerved, nerves alternately larger. *Corolla* frequently wanting; when present small, white, 2 cleft, expanding in the evening. *Stamens* nearly as long as the calyx, 5 sometimes abortive. *Seed* dotted.

In our species the capsules are not distinctly 3 celled, the inflected margins of the valves are connected at base with the central receptacle, but the partition rarely extends to the summit of the capsule.

Grows in most soils; at Ogeechee common.

Flowers March—April.

STELLARIA. GEN. PL. 773.

Calyx 5-phyllus, patens. *Petala* 5, bipartita. *Capsula* ovata, 1-locularis, polysperma.	*Calyx* 5 leaved, expanding. *Petals* 5, two parted. *Capsule* ovate, 1 celled, many seeded.

1. PUBERA.

S. pubescens; foliis sessillibus, ovatis, ciliatis;	Pubescent; leaves sessile, ovate, ciliate; pedi-

pedicellis erectis; petalis calyce longioribus.	cels erect; petals longer than the calyx.

Mich. 1. p. 273. Pursh, 1. p. 317.

Perennial? *Stem* 6—12 inches high. *Leaves* sometimes lanceolate. *Peduncles* axillary, solitary, shorter than the leaves. Leaves of the *calyx* membranous along the margin. *Petals* white.

Grows in shade, in rich soils, from Pennsylvania to Carolina; Pursh. In the western districts of Georgia; Dr. Baldwin.

Flowers May.

2. PROSTRATA. Bald.

S. foliis ovatis, acutis, glabris; petiolis longissimis; caule prostrato, cylindrico, fistuloso, dichotomo, subpubescente; pedunculis solitariis, longis; floribus parvulis, heptandris; calyce erecto. B	Leaves ovate, acute, smooth; petioles very long; stem prostrate, cylindrical, hollow, forked, and slightly pubescent; peduncles solitary, long; flowers small, heptandrous; calyx erect.

Root fibrous, annual. *Stem* slightly channelled, prostrate or trailing, 1—4 feet long. Lower *leaves* sometimes heart-shaped, sessile. *Stamens* generally 7. B.

Grows in rich, springy land, on the island of Fort George, East-Florida.

Flowers March—April.

ARENARIA. Gen. pl. 774.

Calyx 5-phyllus, patens. *Petala* 5, integra. *Capsula* 1-locularis, polysperma.	*Calyx* 5 leaved, expanding. *Petals* 5, entire. *Capsule* 1 celled, many seeded.

1. SERPYLLIFOLIA.

A. caule dichotomo, diffuso; foliis ovatis, acutis, ciliatis; calycibus acutis, substriatis; petalis calyce brevioribus. Pursh, 1. p. 347.	Stem dichotomous, diffuse; leaves ovate, acute, ciliate; calyx acute, striate; petals shorter than the calyx.

Sp. pl. 2. p. 720. Mich. 1. p. 274.

Annual. *Stem* 3—6 inches long, procumbent and assurgent, pubescent, with the hairs reflected. *Leaves* opposite, sessile, sometimes acuminate, slightly cordate and 3 nerved, hairy, small. *Flowers* solitary, in the divisions of the stem, sometimes axillary. *Calyx* hispid, the two exterior leaves rather longer than the interior, twice or three times as long as the corolla. *Petals* oval, erect, white. *Stamens* unequal, shorter than the calyx. *Germ* superior. *Styles* as long as the stamens. *Stigmas* simple. *Capsule* ovate, clothed by the persistent calyx, 5 valved. *Seeds* reniform, dotted, attached to the central receptacle.

Grows in dry pastures.

Flowers April—May.

2. DIFFUSA. E.

A. pubens; caule diffuso, ramoso; foliis oblongo-lanceolatis, utrinque acutis; pedunculis solitariis, axillaribus, foliis duplo longioribus; petalis calyce multo brevioribus. E.	Pubescent; stem diffuse, branching; leaves oblong lanceolate, acute at each end; peduncles solitary, axillary, twice as long as the leaves; petals much shorter than the calyx.

Stem 2—3 feet high, branching, decumbent, supporting itself on small plants; branches alternate, axillary. *Leaves* entire, tapering at base, almost spathulate. *Peduncles* about an inch long, 1 flowered. Leaves of the *calyx* ovate, acute, persistent. *Petals* oval, scarcely one third the length of the calyx, white. *Stamens* and *capsule* about the length of the calyx.

Grows in close damp soils.

Flowers April—June.

3. CANADENSIS. Persoon.

A. glabra; foliis lineari-subulatis, carnosis, internodis longioribus; stipulis membranaceo-connatis, vaginantibus; staminibus variantibus, (2—5); capsulis ovato-trigonis.—E.	Glabrous; leaves linear subulate, carnose, longer than the internodes; stipules membranaceous connate, sheathing; stamens variable, (2—5); capsules ovate trigonous.

Pers. Syn. pl. 1. p. 504. Pursh. 1. p. 319.

A. rubra, *var. b.* Mich. 1. p. 271.

Annual. *Stem* 3—5 inches long, procumbent and assurgent, succulent, forming small tufts, sometimes solitary. *Leaves* about an inch long. *Stipules* 1—2 lines long, with the summit sometimes lacerate. *Flowers* axillary, solitary, on short peduncles. Leaves of the *calyx* lanceolate, with the margins membranaceous. *Petals* lanceolate, about as long as the calyx, of a pale flesh colour. *Stamens* half as long as the corolla. *Styles* very short. *Stigmas* glandular, recurved.

This singular plant varies much in the number of its stamens. Michaux describes the Canadian variety as pentandrous. I have found it in Carolina uniformly triandrous; in Florida Dr. Baldwin met with it diandrous.

Grows in brackish marshes, Rantowles.

Flowers April—May.

4. GLABRA. Mich.

A. foliis subulato-linearibus, patulis; pedunculis unifloris, axillaribus, elongatis; petalis emarginatis, calyce multo longioribus. E.

Leaves subulate linear, expanding; peduncles 1 flowered, axillary, long; petals emarginate, much longer than the calyx.

Mich. 1. p. 274. Pursh, 1. p. 318.
Stellaria uniflora, Walt. p. 141.

Stems erect, slender, glabrous, numerous from one root. *Leaves* subulate, slightly connate, much shorter than the internodes. *Peduncles* as long as the internodes, erect. Leaves of the persistent *calyx* rather obtuse. *Petals* twice or thrice as long as the calyx, distinctly emarginate, white. *Stamens* a little longer than the calyx.

Grows in the swamps of the Santee river, from Murray's to Nelson's Ferry. Dr. Macbride.

Flowers May.

5. SQUARROSA. Mich.

A. foliis imis squarroso-imbricatis, canaliculatis, glabris; caule nudiusculo; paniculis paucifloris; petalis calyce obtuso multo majoribus. Mich. 1. p. 273.

Lower leaves squarrose imbricate, channelled, glabrous; stem naked; panicles few flowered; petals much larger than the obtuse calyx.

Pursh, 1. p. 318.
A. Caroliniana, Walt. p. 141.

Root perennial. *Stem* 6—10 inches high, much divided near the base forming thick tufts, simple towards the summit, pubescent. *Leaves* opposite, crowded near the base, distant on the stem, subulate, expanding, rigid, glabrous. *Panicle* small, terminal, with the branches generally triflorous. Leaves of the *calyx* ovate, rather obtuse, glabrous. *Petals* much longer than the calyx, obovate, white. *Stamens* nearly as long as the petals. *Styles* with the germ as long as the stamens. *Capsule* ovate, longer than the calyx.

Grows on the dry sand hills in the middle country.

Flowers April—June.

6. STRICTA. Mich.

A. glabra; foliis subulato-linearibus, erectis; panicula pauciflora; petalis calyce acutissimo striatoque multo longioribus. Mich. 1. p. 274.	Glabrous; leaves subulate linear, erect; panicle few flowered; petals much longer than the acute and streaked calyx.

Pursh, 1. p. 318.

Root perennial. *Stems* clustered, erect, 4—6 inches high. *Leaves* more linear than in the preceding species, erect, and not so much crowded near the base. Leaves of the *calyx* very acute, conspicuously streaked or nerved. *Capsule* shorter ? than the calyx.

Found by Mr. Lyon, on the mountains of Carolina.

Flowers May—June. Pursh.

BRUNNICHIA. GEN. pl. 777.

Calyx 1-phyllus, demum coriaceus, angulatus, 5-fidus. *Corolla* 0. *Capsula* supera, 1-locularis, 1-sperma.	*Calyx* 1 leaved, when old coriaceous, angled, 5 cleft. *Corolla* 0. *Capsule* superior, 1 celled, 1 seeded.

1. CIRRHOSA.

Mich. 1. p. 271. Pursh, 1. p. 273.
Rajania ovata, Walt. p. 247.

A perennial plant, climbing over shrubs and small trees. *Stem* angled. *Leaves* alternate, cordate, acute, entire, glabrous, on short petioles. *Flowers* in terminal panicles, generally turning to one side on the branches of the panicle, growing in small clusters (3—4) from each bud. *Bractea* small, ovate, mucronate, persistent, protecting each bud. Segments of the *calyx* oval. *Stamens* generally 10, sometimes 8, rather longer than the calyx. *Styles* as long as the stamens. *Capsule* generally 4 angled, clothed by the persistent, ventricose, almost woody calyx, and supported by a dilated, curved peduncle.

The ensiform peduncle, so uncommon and remarkable in this plant, is almost simple in the flower, but dilates with the progressive maturity of the fruit.

Grows at Fort Barrington, on the Alatamaha; Mr. Lyon. Louisville. Georgia; Mr. Jackson. Carolina; Walt.

Flowers April—May.

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TETRAGYNIA.

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MICROPETALUM. PERSOON.

Calyx 5-phyllus, patens. *Petala* 5, minuta, integra, vel nulla. *Stigmata* 4, sessilia. *Capsula* ovata, calyce longior, 4-valvis.	*Calyx* 5 leaved, expanding. *Petals* 5, minute, entire or wanting. *Stigmas* 4, sessile. *Capsule* ovate, longer than the calyx, 4 valved.

1. LANUGINOSUM.

M. dense pubescens; foliis lanceolatis, in petiolum angustatis; pedunculis subsolitariis, elongatis, demum reflexis; floribus apetalis. Mich.	Closely pubescent; leaves lanceolate, tapering to a petiole; peduncles generally solitary, long, finally reflected; flowers without petals.

Pursh, 1. p. 319.
Spergulastrum lanuginosum, Mich. 1. p. 275.

Grows in the mountains of Virginia and Carolina.
Flowers June—July. Pursh.

PENTAGYNIA.

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SPERGULA. GEN. PL. 798.

Calyx 5-phyllus. *Petala* 5, integra. *Capsula* ovata, 1-locularis, 5-valvis.	*Calyx* 5 leaved *Petals* 5, entire. *Capsule* ovate, 1 celled, 5 valved.

1. **ARVENSIS.**

S foliis filiformibus, verticillatis ; panicula dichotoma ; pedunculis fructiferis reflexis ; seminibus reniformibus. Sp. pl. 2. p. 818.	Leaves filiform, verticillate ; panicle dichotomous ; peduncles reflected when in fruit ; seeds reniform.

Walt. p. 241. Pursh, 1. p. 320.

Annual *Stem* erect, 2 feet high, glabrous. *Leaves* numerous at each joint, generally shorter than the internodes *Panicle* dichotomous, with a flower in each division *Corolla* white, rathe longer than the calyx. *Capsule* nearly twice as long as the calyx.

Grows in cultivated grounds, in oatfields not uncommon. An exotic becoming naturalized.

Flowers April—May.

2. **DECUMBENS.** E.

S. foliis lineari-subulatis, oppositis, glabris ; pedunculis axillaribus, solitariis, foliis paulo longioribus ; floribus decandris ; caule decumbente. E.	Leaves linear subulate, opposite, glabrous ; peduncles axillary, solitary, a little longer than the leaves ; flowers decandrous ; stem decumbent.

S. nodosa, Walt. p. 241.

S. saginoides, Mich. 1 p. 276. Pursh, 1 p. 320.

Annual. *Stem* branching, 1—3 inches long. *Leaves* connected at base by a membrane. *Peduncles* 2—4 lines long. *Flowers* erect.

Calyx persistent. *Petals* oblong, obtuse, a little longer than the calyx, closing in the evening, thickened at base, persistent. *Stamens* as long as the calyx, inserted at the base of the germ. *Styles* very short or 0. *Stigmas* glandular, expanding. *Seed* very small, under a strong microscope appearing a little rough.

Grows in fields and pastures. Very common.

Flowers March—April.

CERASTIUM. GEN. PL. 797.

Calyx 5-phyllus. *Petala* 5, bifida aut emarginata. *Capsula* 1-locularis, apice dentatim dehiscens.	*Calyx* 5 leaved. *Petals* 5, 2 cleft or emarginate. *Capsule* 1 celled, opening and toothed at the summit.

1. VISCOSUM.

C. hirsutum, viscosum, diffusum; foliis lanceolato-oblongis, obtusiusculis; petalis obovatis, calyce vix longioribus; floribus pedunculo brevioribus.	Hirsute, viscous, diffuse; leaves oblong, lanceolate; rather obtuse; petals obovate, scarcely longer than the calyx; flowers shorter than the peduncle.

Sp. pl. 2. p. 812. Pursh, 1. p. 320.

Grows in pastures and on old walls, from Canada to Carolina. Pursh.

Flowers May--September.

2. HIRSUTUM. Muhl. Cat.

C. hirsutissimum; foliis ovalibus, obtusis, connatis; floribus glomeratis; petalis bifidis, calyce acuto paulo longioribus.	Very hairy; leaves oval, obtuse, connate; flowers clustered; petals 2 cleft, a little longer than the acute calyx.

C. semidecandrum, Walt. p. 241.

Stem procumbent, branching, fistulous. *Leaves* very obtuse, sometimes obovate, obscurely nerved. *Flowers* in terminal clusters, one in each division of a very dichotomous panicle. *Calyx* persistent, with the interior margins membranaceous. *Petals* oblong, expanding, white, twice as long as the stamens. *Stamens* unequal, the short ones opposite to the long ones, alternating with the petals, all insert-

ed at the base of the germ. *Styles* very short. *Stigmas* glandular. *Seeds* obovate, muricate, attached in five rows to a central receptacle.
Grows in damp soils. Very common.
Flowers March—May.

OXALIS. GEN. PL. 791.

Calyx 5-phyllus. *Petala* unguibus connexa. *Stamina* inæqualia, 5 breviora exteriora, basi connata. *Capsula* angulis elastice dehiscens.	*Calyx* 5 leaved. *Petals* connected by claws. *Stamens* unequal, 5 exterior shorter, connate at base. *Capsule* opening elastically at the angles.
* *Foliis ternatis; scapo multifloro.*	* *Leaves ternate; scape many flowered.*

1. VIOLACEA.

O. acaulis; scapo umbellifero, floribus nutantibus; foliis ternatis, obcordatis, glabris; stylis staminibus brevioribus, recurvis.	Stemless; scape umbelliferous, flowers nodding; leaves ternate, obcordate, glabrous; styles shorter than the stamens, recurved.

Sp. pl. 2. p. 786. Walt. p. 143. Mich. 2. p. 39. Pursh, 1. p. 322.

Root bulbous; bulbs composed of ovate, 3 ribbed, ciliate scales, enclosing in the centre a transparent *corculum*. *Stem* 0. *Petioles* proceeding from between the scales of the bulb. *Leaves* dotted, frequently discoloured. *Umbels* 4—6 flowered, several growing from one root. Leaves of the *calyx* lanceolate, obtuse, marked at their summits by a 2 cleft, orange-coloured gland. *Petals* obovate, violet-coloured, sometimes slightly emarginate. *Styles* about half as long as the stamens. *Stigmas* 2 cleft, the divisions somewhat globose.
Grows in rich, close soils.
Flowers March—May, and sometimes in the autumn.

** *Caulescentes; foliis ternatis, obcordatis.*	** *With stems; leaves ternate, obcordate.*

2. CORNICULATA.

O. pubescens; caule prostrato; umbellis petiólos subæquantibus; pe-	Pubescent; stem prostrate; umbels as long as the petioles; petals obo-

talis obovatis, lævissime emarginatis; stylis longitudine staminum interiorum; stigmatibus obtusis E.	vate, slightly emarginate; styles as long as the interior stamens; stigmas obtuse.

Sp. pl. 2. p. 800. Mich. 2. p. 39. Pursh, 1. p. 322.

Stem branching, prostrate, creeping. *Leaves* glabrous on the upper surface, hairy underneath, ciliate. *Umbels* axillary, sometimes 2 flowered. Leaves of the *calyx* erect, obtuse, ciliate. *Corolla* smaller than in any other of our species, twice as long as the calyx. Interior *stamens* as long as the calyx.

Grows around Charleston in great abundance; is readily known by its prostrate habit.

Flowers February—June.

3. RECURVA. E.

O. pilosa; caule erecto; umbellis folia superantibus; petalis obtusis; staminibus calyce longioribus; stylis brevissimis, recurvis; stigmatibus simplicibus. E.	Hairy; stem erect; umbels longer than the leaves; petals obtuse; stamens longer than the calyx; styles very short, recurved; stigmas simple.

Root perennial? fibrous, creeping. *Stem* erect, 4—8 inches high, rarely branching. *Leaves*, as in most of our caulescent species, alternate near the base of the stem, in verticillate clusters, where it begins to bear flowers; *leaflets* deeply obcordate, hairy along the margin and on the under surface. *Umbels* axillary, opposite and verticillate, 2—6 flowered. *Petals* obovate, twice or three times as long as the calyx. *Stamens* all longer than the calyx. *Styles* not half as long as the shorter stamens, recurved, projecting between the filaments.

Grows in cultivated land. Very common near Charleston, intermingled with the O. stricta, with which it has been confounded.

Flowers April—May.

4. STRICTA.

O. pilosa; caule erecto, ramoso; umbellis petiolis longioribus; petalis obovatis; stylis longitudine staminum interiorum.	Hairy; stem erect, branching; umbels longer than the petioles; petals obovate; styles as long as the interior stamens.

Sp. pl. 2. p. 800. Walt. p. 143. Mich. 2. p. 39. Pursh, 1. p. 323.

Very closely allied to the preceding species in appearance and habit. *Umbels* very generally longer than the petioles, 2—6 and 8 flowered. *Petals* obovate, generally entire.

Grows in light soils. Very common.

Flowers March—May.

5. FURCATA. E.

O pilosissima; caule erecto, ramoso; petalis subemarginatis; stylis longitudine staminum interiorum; stigmatibus furcatis. E.	Very hairy; stem erect, branching; petals slightly emarginate; styles as long as the interior stamens; stigmas forked.

Root perennial, creeping. *Stem* 3—6 inches high, branching at the base. *Leaves* frequently by pairs; *leaflets* hairy along the margin and on the under surface. *Umbels* solitary, one between each pair of leaves, frequently 2, sometimes 4—6 flowered, longer than the leaves. *Petals* obovate, very slightly emarginate. 3 times as long as the calyx. *Stamens* united to the middle of the filaments. *Styles* varying a little in length, but generally about as long as the interior stamens. *Stigmas* thickened, 2 cleft or forked. *Capsule* 5 angled, 5 celled, mucronate, thickly clothed with horizontal hairs. *Seeds* many, ovate, attached to the central receptacle.

I have sometimes supposed that this may have been the original O. Dillenii, a species which I believe it will be difficult to identify. None of our species of Oxalis, that I have seen are strictly and uniformly biflorous, no one has petals conspicuously emarginate We possess probably many species not yet described, for no genus is more extensively diffused over our country than the Oxalis, nor can be found in a greater variety of soils. Two species I have determined by characters that appear to me permanent, but ill health through two successive springs has prevented me from continuing the investigation.

Grows in close soils.

Flowers March—May.

6 LYONI Pursh.

O. sericeo-pilosa; caule ramoso, decumbente; pedunculis bifloris, petiolis longioribus; foliis ternatis, bilobo-obcordatis; laciniis rotundatis, divaricatis; petalis cuneatis;	Covered with silken hairs; stem branching, decumbent; peduncles 2 flowered, longer than the petioles; leaves ternate, obcordate, 2 lobed; segments round, divaricate;

capsulis tomentosis, calyce lanceolato duplo longioribus. Pursh, 1. p. 322.

petals cuneate; capsules tomentose, twice as long as the lanceolate calyx.

The same remark will apply here which was made respecting O. Dillenii. It will be difficult to identify this species. It has no character to distinguish it from the O. stricta, except its biflorous umbel, which is probably an inconstant feature.

Grows in Cumberland. Described from specimens in the herbarium of the late Mr. Lyon.

Flowers May—June.

PENTHORUM. GEN. PL. 790.

Calyx 5-fidus. *Petala* 0 aut 5. *Capsula* 5-cuspidata, 5-locularis.

Calyx 5 cleft. *Petals* 0 or 5. *Capsule* 5 pointed, 5 celled.

1. SEDOIDES.

P. caule ramoso, superne angulato; foliis lanceolatis, subsessilibus, duplicato-serratis; spicis simplicibus, secundis, recurvis, paniculatis; seminibus scrobiformibus.

Stem branching, angled above; leaves lanceolate, nearly sessile, doubly serrate; spikes simple, secund, recurved, panicled; seeds scrobiform.

Sp. pl. 2. p. 770. Walt. p. 241. Mich. 1. p. 278. Pursh, 1. p. 323.

Stem 1—2 feet high, terete near the base, sprinkled with glandular hairs. *Leaves* alternate, glabrous. *Flowers* in terminal panicles, the spikes generally alternate, sometimes clustered. *Calyx* persistent; the segments ovate, serrate, expanding. *Corolla* generally wanting. *Stamens* longer than the calyx, inserted at the base of the germ. *Germ* superior, depressed in the centre, with the margin divided into 5 pistilliferous summits. *Styles* as long as the stamens, persistent.

Grows in wet places, ponds, ditches, &c.

Flowers June—September.

SEDUM. GEN. PL. 789.

Calyx 5-fidus. *Petala* 5. Squamæ nectariferæ 5 ad basin *germinis*. *Capsulæ* 5.

Calyx 5 cleft. *Petals* 5. 5 nectariferous scales at the base of the *germ*. *Capsules* 5.

1. PULCHELLUM. Mich.

S. glabrum: caulibus assurgentibus; foliis sparsis, linearibus, obtusis; cyma polystachya; floribus sessilibus, octandris.	Glabrous; stems assurgent; leaves scattered, linear, obtuse; cyme many spiked; flowers sessile, octandrous.

Mich. 1. p. 277. Pursh, 1. p. 323.

Lower *leaves* oblong oval. *Spikes* when in flower expanding and recurved, when bearing fruit erect. *Flowers* octandrous, purple. Mich.

Grows in the mountains of Carolina. Dr. Muhlenberg.

Flowers

2. TERNATUM. Mich.

S. repens; foliis planis, rotundato-spathulatis, ternis; cyma subtristachya; floribus albidis.	Creeping; leaves flat, round spathulate, by threes; cyme generally 3 spiked; flowers white.

Mich. 1. p. 277. Pursh, 1. p. 324.

Plant small, creeping. Lower *leaves* rounded, the upper lanceolate. *Flowers* white, sessile; the upper or terminal floret decandrous, the others octandrous.

Grows in the mountains of Carolina.

Flowers May—June.

3. TELEPHIOIDES. Mich.

S. foliis lato-lanceolatis, utrinque acutis, dentatis; corymbis multifloris.	Leaves broad lanceolate, acute at each end, dentate; corymbs many flowered.

Mich. 1. p. 277. Pursh, 1. p. 324.

Stem branching. *Leaves* alternate, sometimes oval. *Corymbs* terminal, many parted, the divisions short, forming a compact, almost globular corymb. *Corolla* pale purple.

Grows on the Saluda mountains. Dr. Macbride.

Flowers June—August.

DIAMORPHA. NUTTALL.

Calyx 4-fidus. *Petala* 4. *Capsula* externe de-	*Calyx* 4 cleft. *Petals* 4. *Capsule* opening ex-

hiscens, 4-locularis, cuspidata; loculis sub 4-spermis.

ternally, 4 celled, cuspidate; cells generally 4 seeded.

1. Pusilla. Nuttall, 1. p. 293.

Sedum pusillum, Mich. 1. p. 276. Pursh, 1. p. 323.

Annual. *Stem* 2—4 inches high, succulent. *Leaves* alternate, somewhat terete. *Cymes* trichotomously or verticillately divided from the base of the stem. *Flowers* alternate and pedicillate, octandrous, white. *Capsules* 4, connate, with long mucronate diverging points. Nuttall.

Grows on the Flat Rock near Camden, South-Carolina.
Flowers

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DECAGYNIA.

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PHYTOLACCA. Gen. pl. 800.

Calyx 0. *Petala* 5, calycina. *Bacca* supera, 10-locularis, 10-sperma.

Calyx 0. *Petals* 5, resembling a calyx. *Berry* superior, 10 celled, 10 seeded.

1. Decandra.

P. foliis ovato-lanceotis, utrinque acutis; floribus decandris, decagynis.

Leaves ovate lanceolate, acute at each end; flowers decandrous, decagynous.

Sp. pl. 2. p. 822. Walt. p 143. Mich. 1. p. 278. Pursh, 1. p. 324.

Root large, somewhat fusiform, perennial. *Stem* annual, 4—10 feet high, terete, glabrous, succulent, sometimes a little angled by the slightly decurrent peduncles and petioles. *Leaves* alternate, entire, sometimes acuminate, glabrous, glossy on the upper surface. *Flowers* in simple racemes, opposite the leaves. *Petals* ovate, white, persistent. *Stamens* nearly as long as the corolla. *Anthers* white. *Germ* superior, orbicular, depressed, furrowed. *Styles* very short, reflected. *Stigmas* obtuse. *Berry* globular, juicy, dark purple.

Grows in cultivated ground. Very common.
Flowers May—September. *Poke Berry.*

CLASS XI.

DODECANDRIA.

MONOGYNIA.

301. ASARUM.
302. BEJARIA.
303. DECUMARIA.
304. PORTULACCA.
305. TALINUM.

DIGYNIA.

306. AGRIMONIA.

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ASARUM. Gen. pl. 801.

Calyx 3—4-fidus, germini insidens. *Corolla* 0. *Antheræ* lateribus filamentorum adnatæ. *Capsula* coronata, 6-locularis.	*Calyx* 3—4 cleft, sitting on the germ. *Corolla* 0. *Anthers* attached to the sides of the filaments. *Capsule* crowned, 6 celled.

1. **Canadense.**

A. foliis lato reniformibus, geminatis ; calyce lanato, profunde tripartito, laciniis sublanceolatis, reflexis. Mich. 1. p. 279.	Leaves by pairs, broad, reniform ; calyx woolly, deeply 3 parted, segments nearly lanceolate, reflected.

Sp. pl. 2. p. 838. Pursh, 2. p. 596.
A. Carolinianum, Walt. p. 143.

Root perennial. *Stem* 0. *Leaves* generally 2, hairy, the summit becoming very obtuse or even emarginate with age. *Petioles* long, very hairy. *Peduncles* short, 1 flowered. *Flower* somewhat campanulate.

The leaves appear to vary in their pubescence.

Grows in rich, shaded soils.

Flowers April. *Wild Ginger.*

2. VIRGINICUM.

A. foliis solitariis, rotundato-cordatis, glabris, coriaceis ; flore subsessili ; calyce extus glabro, breviter campanulato.—Mich. 1. p. 279.	Leaves solitary, cordate, nearly round, glabrous, coriaceous ; flower nearly sessile ; calyx externally glabrous, short, campanulate.

Sp. pl. 2. p. 838. Pursh, 2. p. 597.

Very similar in habit to the preceding species. *Leaves* spotted or rather clouded, and handsomely variegated.

Grows in shaded, rocky soils.

Flowers

3. ARIFOLIUM. Mich.

A. foliis subhastato-cordatis ; calyce urceolato, limbo trifido, connivente, intus pubescente. E.	Leaves somewhat hastate, cordate ; calyx urceolate, with the border 3 cleft, conniving, pubescent within.

Mich. 1. p. 280. Pursh, 2. p. 597.
A. Virginicum, Walt. p. 143.

Root tuberous, creeping, thick. *Leaves* several from each root, generally acute, the young ones pubescent on the margins and under surface, variegated. *Petioles* long, pubescent. *Flowers* just rising to the surface of the ground. *Calyx* dark purple. *Filaments* 12, very short. *Anthers* 2 lobed, linear, attached to the sides of the filaments ; lobes distinct. *Germ* occupying the bottom of the calyx, thick, cylindrical, concave at the summit. *Styles ?* six, erect, attached to the margins of the germs, scarcely longer than the stamens. *Stigma* obliquely truncate, 2 horned. *Capsule* coriaceous. *Seeds* few in each cell, attached to a central receptacle.

This species, which I have most carefully examined, appears to me evidently hexagynous.

Grows in fertile, loose soils. Very common.

Flowers March—April.

BEJARIA. GEN. PL. 811.

Calyx 7-fidus. *Petala* 7. *Stamina* 14. *Capsula* 7-locularis, polysperma.	*Calyx* 7 cleft. *Petals* 7. *Stamens* 14. *Capsule* 7 celled, many seeded.

1. RACEMOSA.

B. foliis ovato-lanceolatis, glabris; floribus racemoso-paniculatis, terminalibus; caule hispido.	Leaves ovate lanceolate, glabrous; flowers racemose paniculate, terminal; stem hispid.

Pursh, 2. p. 362.
Befaria paniculata, Mich. 1. p. 280.

A very handsome shrub, 3—4 feet high, erect, branching, hispid and glutinous. *Leaves* perennial, alternate, erect, very entire, a little hispid on the midrib, glaucous on the under surface. *Calyx* campanulate; segments very short. *Flowers* large, white, tinged with red, in long simple racemes, on peduncles nearly an inch long; in vigorous plants the racemes branch and become paniculate. *Petals* obovate. *Stamens* nearly as long as the petals. *Style* persistent. *Capsule* globular, 7 valved, 7 celled. Mich.

Grows in dry, sandy soils. Cumberland island, Georgia. In gardens around Charleston, where it has been frequently introduced, it never flourishes.

Flowers June—July.

DECUMARIA. GEN. PL. 815.

Calyx superus, 8—12-fidus. *Petala* 8—12. *Capsula* 7—10-locularis, polysperma.	*Calyx* superior, 8—12 cleft. *Petals* 8—12. *Capsule* 7—10 celled, many seeded.

1. BARBARA.

D. foliis ovato-oblongis, utrinque acutis, obsolete serratis. Willd. enum. p. 516.	Leaves ovate oblong, acute at each end, slightly serrate.

Sp. pl. 2. p. 850. Pursh, 1. p. 328.

Stem climbing. *Flowers* in corymbose panicles, white, very fragrant. Pursh.

This species I have never seen. All of the plants and specimens I have examined belong to the D. sarmentosa.

Grows in Carolina. Pursh.

Flowers July—August.

2. SARMENTOSA.

D. foliis ovatis, acutis, basi rotundatis, apice serratis. Willd. enum. p. 165.	Leaves ovate, acute, rounded at base, serrate at top.

Sp. pl. 2. p. 850. Pursh, 1 p. 328.
D. Forsythia, Mich. 1. p. 282.
Forsythia scandens, Walt. p. 154.

Stem climbing, throwing out radicles and attaching itself to the bark of trees, which it ascends to a considerable height. *Leaves* opposite, on long petioles, broad, sometimes acuminate, sprinkled with hairs on the under surface. *Flowers* in terminal corymbs. *Calyx* turbinate; segments very minute, acute. *Petals* much longer than the calyx, narrow, white. *Stamens* as long as the corolla, inserted at the summit of the tube of the calyx. *Style* short, very thick. *Stigma* obtuse angled.

Grows in damp rich soils, along the margin of swamps.
Flowers May—June.

PORTULACCA. GEN. PL. 824.

Calyx 2-fidus. *Petala* 5. *Capsula* 1-locularis, circumscissa.	*Calyx* 2 cleft. *Petals* 5. *Capsule* 1 celled, circumscissed.

1. OLERACEA.

P. foliis cuneiformibus; floribus sessilibus. Sp. pl. 2. p. 859.	Leaves wedge shaped; flowers sessile.

Walt. p. 144. Pursh, 2. p. 365.

Annual. *Stem* succulent, prostrate, with the summits erect, terete, branching, very glabrous. *Leaves* alternate and opposite, obovate, very obtuse, succulent, dotted, very glabrous, generally of a purple tinge on the under surface, nearly sessile. *Flowers* axillary, sessile, clustered, supported at base by a small membranous leaf. *Calyx* superior, deeply 2 cleft, persistent, closing after the flower decays; the back of the segments compressed. *Petals* obovate, emarginate, yellow, longer than the calyx, persistent. *Stamens* 12, shorter than the corolla. *Style* as long as the stamens, 5 cleft. *Stigmas* obtuse, glandular. *Seeds* numerous, rough, somewhat reniform, unequal at base.

Grows every where in rich soils; one of the domestic plants that appear to accompany man in most climates.
Flowers May—October. *Purslane,*

TALINUM. ADANSON.

Calyx inferus, 2—5-phyllus. *Petala* 5. *Capsula* 1-locularis, 3-valvis, polysperma. *Receptaculum* globosum. *Semina* arillata.

Calyx inferior, 2—5 leaved. *Petals* 5. *Capsule* 1 celled, 3 valved, many seeded. *Receptacle* globose. *Seeds* arillate.

1. TERETIFOLIUM.

T ? foliis teretibus, subulatis, carnosis ; scapo cymoso ; floribus pedunculatis, polyandris ; calyce diphyllo. Nuttall, 2, p. 6.

Leaves terete, subulate, carnose ; scape cymose ; flowers on peduncles, polyandrous ; calyx 2 leaved.

Pursh, 2. p. 365.

Root perennial, forming small tufts. *Leaves* alternate, crowded, terete, linear, carnose, glabrous. *Scapes* ? about a foot high, somewhat corymbose. *Flowers* solitary, on short peduncles in the divisions of the corymb. *Calyx* 2 leaved. *Petals* 5, much longer than the calyx, purple. *Stamens* shorter than the corolla. *Germ* globose. *Styles* as long as the stamens. *Stigmas* 2 ? *Capsule* globose, 3 valved. *Seeds* spiral, involute.

Grows on rocks. Athens, Georgia ; Mr. Green.

Flowers

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DIGYNIA.

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AGRIMONIA. GEN. PL. 830.

Calyx inferus, 5-fidus, calyculo obvallatus. *Petala* 5. *Semina* 2, in fundo calycis.

Calyx inferior, 5 cleft, surrounded with a calycle. *Petals* 5. *Seeds* 2, in the bottom of the calyx.

1. EUPATORIA.

A. hirsuta ; foliis interrupte pinnatis ; foliolis o-

Hirsute ; leaves interruptedly pinnate ; leaflets valibus, dentatis, supra scabris, subtus villosis; spicis virgatis; fructibus turbinatis, basi lævibus.—E.

oval, dentate, scabrous on the upper, villous on the lower surface; spikes virgate; fruit turbinate, smooth at base.

Sp. pl 2. p. 875. Mich. 1. p. 287. Pursh, 1. p. 335.

Root perennial. *Stem* herbaceous, about 2 feet high, hirsute. *Leaflets* generally 5—7, oval when fully grown, frequently lanceolate when young, ribbed, sessile and rather obtuse at base, alternating with small, 3 cleft leaflets. *Spikes* long, slender, terminal and axillary, sometimes forming panicles. *Flowers* on very short peduncles. *Calyx* striated at base, thickly surrounded just below the border with thick, hooked bristles. *Petals* yellow, oval, twice as long as the calyx. *Stamens* 12, shorter than the corolla. *Germ* superior, surrounded by the persistent calyx. *Styles* 2, shorter than the stamens. *Stigmas* capitate; pericarp composed of the tube of the calyx, hispid around the summit.

Grows in cultivated land. Very common.

Flowers July—September.

2. SUAVEOLENS? Pursh.

A. caule hispidissimo; foliis interrupte pinnatis; foliolis plurimis, angusto-lanceolatis, argute dentatis, supra scabris, subtus pubescentibus; spicis virgatis; fructibus turbinatis, basi lævibus. E.

Stem very hispid; leaves interruptedly pinnate; leaflets numerous, narrow, lanceolate, acutely dentate, scabrous on the upper, pubescent on the under surface; spikes virgate; fruit turbinate, smooth at base.

Pursh, 1. p. 336.

Stem 4—5 feet high, very hispid. *Leaflets* numerous (11—15), acute at base, with 3—5 small leaflets of unequal sizes interposed between the large ones. *Peduncles* longer than those of the preceding species. *Corolla* yellow, about twice as long as the calyx.

Grows about 6 miles from Charleston? Collected on the confines of Tennessee and Carolina, by Mr. Jackson.

Flowers July—August.

CLASS XII.

ICOSANDRIA.

MONOGYNIA.

307. CACTUS.
308. PHILADELPHUS.
309. CHRYSOBALANUS.
310. PRUNUS.
311. DECODON.
312. LYTHRUM.
313. CUPHEA.

DI—PENTAGYNIA.

314. FOTHERGILLA.
315. CRATÆGUS.
316. SORBUS.
317. SESUVIUM.
318. ARONIA.
319. PYRUS.
320. SPIRÆA.
321. GILLENIA.

POLYGYNIA.

322. ROSA.
323. RUBUS.
324. DALIBARDA.
325. GEUM.
326. POTENTILLA.
327. FRAGARIA.
328. CALYCANTHUS.

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CACTUS. Gen. pl.

Calyx superus, monophyllus, imbricatus. *Petala* plurima, multiplici serie inserta. *Stigma* multifidum. *Bacca* 1-locularis, polysperma.	*Calyx* superior, monophyllous, imbricate. *Petals* numerous, inserted in several rows. *Stigma* many cleft. *Berry* 1 celled, many seeded.

1. Opuntia.

C. articulato-prolifer; articulis compressis, obovatis; spinis setaceis.—Sp. pl. 2. p. 943.	Articulately proliferous; articulations compressed, obovate; spines setaceous.

Walt. p. 146. Mich. 1. p. 282. Pursh. 1. p. 327. Nutt. 1. p. 296.

Plant perennial, erect, procumbent or prostrate; articulations producing on their margins flowers, fruit, and new articulations, armed with double spines, some long, subulate, strong, hairy at their base, others very small and setaceous. *Flowers* sessile, yellow. *Fruit* obovate, umbilicate, pulpy, eatable. *Seeds* numerous, immersed in the crimson pulp.

It is probable that there are now three distinct species on the sea coast of the Southern States covered under this name. In the supplement to this work, if I should be permitted to complete it, the inquiry shall be resumed.

Grows in sandy soils.

Flowers through the summer.

PHILADELPHUS. GEN. PL. 840. BOT. MAG. 1478.

Calyx superus, 4—5-partitus. *Petala* 4—5. *Stylus* 4-fidus. *Capsula* 4—5-locularis, polysperma.	*Calyx* superior, 4—5 parted. *Petals* 4—5. *Style* 4 cleft. *Capsule* 4—5 celled, many seeded.

1. INODORUS.

P. foliis ovatis, acuminatis, integerrimis; calycis laciniis acutis; stylo staminibus longiore, indiviso; stigmatibus quatuor, oblongis. Pursh, 1. p. 329.	Leaves ovate, acuminate, entire; segments of the calyx acute; style undivided, longer than the stamens; stigmas 4, oblong.

Sp. pl. 2. p. 948. Walt. p. 146.

A handsome shrub. *Leaves* very entire, strongly veined. *Flowers* on short lateral branches, terminal, generally by threes. *Corolla* large, white.

This species is certainly rare. No botanist has lately seen it in our woods, nor have I been able to discover a specimen of it in the various collections of dried plants which have passed under my inspection.

Grows along the margins of rivers in Carolina. Catesby, Pursh.

Flowers

2. GRANDIFLORUS. Willd.

P. foliis ovatis, acuminatis, denticulatis, parce pilosis; calycis laciniis acuminatis; stylo staminibus longiore, indiviso; stigmatibus quatuor, linearibus. Willd. Enum. 511.	Leaves ovate, acuminate, denticulate, a little hairy; segments of the calyx acuminate; style undivided, longer than the stamens; stigmas 4, linear.

Pursh, 1. p. 329.

P. inodorus. Mich, 1. p. 283.

A shrub 6—10 feet high, the young branches long and flexible: the flower-bearing branches short, rigid; all glabrous and slightly angled. *Leaves* opposite, on short petioles, strongly veined, hairy on both surfaces, very hairy on the under surface at the division of the veins. *Flowers* terminal, generally by threes. *Calyx* persistent, the margins finely villous. *Corolla* white, large, twice as long as the stamens.

A very ornamental plant. Grows along the margins of the rivers in the upper part of Georgia and Carolina. Near Columbia common; Mr Herbemont.

Flowers April—May.

CHRYSOBALANUS. Gen. pl. 850.

Calyx inferus, campanulatus, 5-fidus. *Petala* 5. *Stylus* lateralis. *Drupæ* nux 5-sulcata, 5-valvis, 1-sperma.	*Calyx* inferior, campanulate, 5 cleft. *Petals* 5. *Style* lateral. Nut of the *drupe* 5 furrowed, 5 valved, 1 seeded.

1. Oblongifolius. Mich.

C? foliis oblongo-lanceolatis, basi cuneatis, integerrimis, glabris nitidisque; floribus paniculatis; fructibus oblongis. E.	Leaves oblong lanceolate, cuneate at base, entire, glabrous and shining; flowers paniculate; fruit oblong.

Mich. 1. p. 283. Pursh, 1. p. 329.

Root creeping extensively. *Stem* shrubby, 1—2 feet high, with few branches. *Leaves* sessile, strongly veined, glossy, paler on the under surface. *Flowers* in terminal panicles, small, white. (*Stamens* glabrous Mich.)

Michaux observs that it varies with the leaves woolly and hoary on the under surface. All that I have seen have been very glabrous. The fruit I have never seen.

Grows near Fort Barrington on the Alatamaha. Near Louisville, Georgia. Mr. Jackson.

Flowers May—June.

PRUNUS. Gen. pl. 849.

Calyx inferus, campanulatus, 5-fidus, deciduus. *Petala* 5. *Drupæ* lœvis nux suturis prominulis.	*Calyx* inferior, campanulate, 5 cleft, deciduous. *Petals* 5. Nut of the smooth *drupe* with prominent sutures.

1. CAROLINIANA.

P. floribus racemosis; foliis sempervirentibus, oblongo-lanceolatis, mucronatis, serratis integerrimisque, eglandulosis, lucidis.

Flowers in racemes; leaves perennial, oblong lanceolate, mucronate, serrate and entire, without glands, lucid.

Sp. pl. 2. p. 987 Pursh, 1. p. 330.
P Lusitanica, Walt p. 146.
Cerasus Virginiana, Mich. 1. p. 285.

One of our most ornamental trees, growing from 30—50 feet high, and forming very regular oval heads; branches smooth. *Leaves* slightly acuminate, very frequently entire, glabrous, somewhat coriaceous. *Racemes* axillary. *Peduncles* glabrous. *Calyx* nearly white; segments acute, erect. *Petals* obovate, white. *Stamens* about 15, more than twice as long as the corolla. *Drupe* black, juiceless, persistent.

The leaves of this tree are very poisonous, and frequently in the spring of the year destroy cattle that are tempted to browse freely on them.

Grows near Columbia, on the margin of the river. On the islands near Beaufort, generally along their margins.

Flowers March—April.

2. VIRGINIANA.

P. floribus racemosis; racemis erectis; foliis deciduis, ovali-oblongis, acuminatis, inæqualiter duplicato serratis, utrinque glabris; petiolis subquadriglandulosis. Pursh 1. p. 329.

Flowers in racemes; racemes erect; leaves deciduous, oval oblong, acuminate, unequally and doubly serrate, glabrous on both surfaces; petioles with 4 glands.

Sp. pl. 2. p. 985. Walt. p. 146.
Cerasus Virginiana, Mich. 1. p. 285.

A tree sometimes attaining the height of 50 or 60 feet, branches smooth and slender. *Leaves* very smooth, somewhat lucid. *Racemes* straight when young. *Petals* nearly round, white. *Berries* dark red, eatable.

The wood of this tree is one of the best we possess for cabinet work and articles of furniture.

Grows in very rich soils.

Flowers April.

3. SEROTINA.

P. floribus racemosis; racemis laxis; foliis deciduis, simpliciter serratis, serraturis infimis subglandulosis; costa media basin versus barbata.	Flowers in racemes; racemes pendulous; leaves deciduous, simply serrate, the lower serratures somewhat glandular; the midrib bearded near the base.

Sp. pl. 2. p. 986. Pursh, 1. p. 330.

This resembles the preceding species very much, but is distinguished by its pendulous racemes, and the bearded midrib of the leaf.

Grows in mountain forests.

Flowers

4. HIRSUTUS. E.

P. floribus racemosis; racemis rectis; foliis deciduis, ovalibus, serrulatis, eglandulosis? subtus cum calycibus, pedunculis petiolisque hirsutis. E.	Flowers in racemes; racemes straight; leaves deciduous, oval, serrulate, without glands? the under surface, with the calyx, peduncles and petioles hirsute.

Cerasus Virginiana, *var.* humilior? Mich. 1. p. 285.

A shrub 3—4 feet high, stoloniferous; the young branches pubescent or hirsute. *Leaves* oval, sometimes slightly acuminate, glabrous on the upper surface, hairy on the under, particularly along the midrib. *Racemes* erect and straight. *Flowers* small. *Berries* dark red.

To the P. Virginiana this plant appears to have very little affinity excepting in its fruit. Its berries were said by Seaborn Jones, Esq. in whose garden at Brier Creek I saw it cultivated, to be superior in size and flavour to the P. Virginiana.

Grows in the counties of Burke and Screven, Georgia.

Flowers April.

5. UMBELLATA. E.

P. umbellis terminalibus, multifloris; foliis lanceolatis, paulo acuminatis, serrulatis, glabris, basi biglandulosis; calycibus pubescentibus. E.	Umbels terminal, many flowered; leaves lanceolate, slightly acuminate, serrulate, glabrous, with two glands at base; calyx pubescent.

P. pumila, Walt. p. 146.

A small tree, with expanding geniculate branches, forming a compact round head; branches glabrous, purple, spiny, the spines bearing leaves. *Leaves* short, generally with a slight acumination. *Flowers* in fascicles, terminating the rigid lateral branches. *Peduncles* about an inch long. Segments of the *calyx* slightly cleft at the summit. *Petals* nearly round, white. *Fruit* small, spherical, red.

The fruit, when ripe, varies frequently in colour. It is pleasantly acid, and is employed in preserves.

To the P. Pennsylvanica this plant has great affinity, yet it appears to differ in several points. Its leaves are proportionally much shorter and more finely serrulate. Its umbels are never elongated, and its flowers always expand and fall before the leaves unfold.

Grows in very dry, sandy soils.

Flowers March. Ripens its fruit in July and August.

6. Chicasa. Mich.

P. floribus fasciculatis, lateralibus fasciculis sessilibus; foliis angusto-lanceolatis, serrulatis; ramis spinescentibus, glabris. E.	Flowers fasciculate, lateral fascicles sessile; leaves narrow lanceolate, serrulate; branches spiny, glabrous.

Mich. 1. p. 284. Pursh, 1. p. 332.
P. insititia, Walt. 146?

A small tree 10—15 feet high, with branches geniculate, expanding, crowded, forming a compact head. *Leaves* on short petioles, generally acute, glabrous. *Flowers* in aggregated clusters, 3—4 in each cluster, on peduncles about half an inch long; clusters sessile. *Calyx* glabrous, with the segments slightly ciliate. *Corolla* white. *Anthers* 12—18, as long as the corolla. *Fruit* globular, red or yellow.

This plant is singularly domestic, following man in this climate wherever he extends his settlements, and growing without care in all cultivated high lands. It is found in all the old Indian settlements, and, according to their traditions, is said to have been brought by them from the western side of the Mississipi. The fruit, like that of most cultivated species, varies much, and some of its varieties are good.

Grows in all soils excepting those which are frequently inundated.

Flowers March.

7. Hiemalis. Mich.

P arborea; stipulis setaceo-compositis; foliis ovalibus obovatisque, abrupte promisseque acu-	Arborescent; stipules setaceous, compound; leaves oval and obovate, abruptly and conspicu-

minatis; pedicillis aggregatis, glabris; calycis laciniis lanceolatis; fructu subovato. Mich. 1. p. 284.

ously acuminate; pedicels aggregate, glabrous; segments of the calyx lanceolate; fruit nearly ovate.

P. spinosa, Walt p. 146?

A small tree 15—20 feet high, with long, flexible, virgate branches. *Leaves* strongly acuminate. *Fruit* generally solitary, large, oval, austere, with an uncommonly thick and tough skin.

This description is taken from what is commonly called the winter plum in our low country, although it really ripens in July and August. This is undoubtedly the P. spinosa of Walter, and I have always supposed it to be the P. æstivalis of Michaux. Pursh, however, has transferred the name and description of Michaux to a very different species.

Grows in swamps, particularly along the large rivers.

Flowers March—April.

8. MARITIMA.

P. pedunculis subsolitariis; foliis ovato-oblongis, acuminatis, duplicato serratis. Willd. enum. 519.

Peduncles generally solitary; leaves ovate oblong, acuminate, doubly serrate.

Pursh, 1. p. 332.

Fruit the size of pigeon's egg, very good to eat. Pursh

There is some confusion in these species which I am not able to explain. Pursh's description of this appears to apply to our winter plumb described above; yet if that is the plant really meant by Willdenow, it is wrongly named, for it is not a maritime species.

Grows on the sea coast, from New-Jersey to Carolina. Pursh.

Flowers

DECODON. GMELIN.

Calyx campanulatus, 10-dentatus, 5 longioribus, patentibus demum incurvis. *Petala* undulata. *Stamina* 10, quorum 5 longissima. *Capsula* 3-locularis, 3-valvis.

Calyx campanulate, 10 toothed, 5 longer, expanding, finally inflected. *Petals* undulate. *Stamens* 10, 5 very long. *Capsule* 3 celled, 3 valved.

1. VERTICILLATUM.

Lythrum verticillatum, Sp. pl. 2. p. 66. Mich. 1. p. 281. Pursh, 1. p. 334. Nuttall Gen. 1. p. 208.
Anonymos aquatic, Walt. p 137.

Root perennial. *Stem* herbaceous or suffruticose, 3—4 feet high, recurved, sometimes taking root at the extremities, pubescent. *Leaves* opposite and alternate, sometimes by threes, lanceolate, acute, entire, a little hairy on the upper surface, soft and tomentose underneath. *Petioles* short. *Flowers* in short, biternate ? axillary panicles, so nearly sessile that they resemble a verticill. *Calyx* 10 toothed, the five long subulate teeth project before the flower expands, then bend in; the five broad short teeth that cover the flower during its infancy expand with it. *Petals* clawed, somewhat lanceolate, three times as long as the subulate teeth, at the base of which they are inserted into the calyx. *Filaments*, 5 inserted at the base of the short segments of the calyx, twice as long as the corolla; 5 below the base of the petals, incurved, scarcely longer than the calyx. *Anthers* nearly round, twin, incumbent. *Germ* superior, ovate. *Style* nearly as long as the long filaments. *Stigma* obtuse. *Capsule* ovate, somewhat 3 angled, smooth. *Seeds* many, angled, ovate, attached to a central receptacle.

Grows in springy spongy soils.

Flowers August—September.

This plant differs so much in its appearance from every species of Lythrum which I have seen, and possesses so many peculiarities in the structure of its flowers and capsule, that, with Walter, I think it will be correct to separate it from that genus.

LYTHRUM. GEN. PL. 825.

Calyx tubulosus, 6—12-dentatus. *Petala* 6, æqualia, calyci inserta. *Capsula* supera, 2-locularis, polysperma. (*Stamina* 2, 6, 8, 10, 12.)	*Calyx* tubular, 6—12 toothed. *Petals* 6, equal, inserted on the calyx. *Capsule* superior, 2-celled, many seeded. (*Stamens* 2, 6, 8, 10, 12.)

1. LANCEOLATUM. E

L. caule virgatim paniculato; foliis lanceolatis, inferioribus oppositis, superioribus subalternis; floribus solitariis, axillaribus, hexandris. E.	Stem terminating in virgate panicles; leaves lanceolate, the lower ones opposite, the upper generally alternate: flowers solitary, axillary, hexandrous.

L. virgatum, Walt. p. 120. Pursh, 1. p. 334.

Root perennial. *Stem* 3—5 feet high, erect, quadrangular, slightly margined; branches near the summit long, slender, very glabrous, as is the whole plant. *Leaves* lanceolate, sessile, entire, acute at each extremity: those on the stem 1½ inch long, ½ an inch wide; those on the branches small, crowded, irregular, but generally alternate. *Peduncles* 1—2 lines long, with 2 subulate stipules at their base of their own length. *Calyx* tubular, furrowed, 12 toothed, with the teeth erect and a little unequal. *Petals* 6, oblong, entire, violet-coloured, twice as long as the calyx. *Filaments* 6 inserted into the tube of the calyx, nearly as long as the corolla. *Style* as long as the stamens. *Stigma* capitate. *Capsule* oblong, 2 celled, 2 valved. *Seed* ovate, slightly angled, attached to a central receptacle.

Grows in ditches, swamps, &c.

Flowers July—August.

2. ALATUM. Pursh.

L. glaberrimum; foliis oppositis, cordato-ovatis, acutis, subpetiolatis; ramulis virgatis, 4-marginatis; floribus axillaribus, solitariis, 6-andris.	Very glabrous; leaves opposite, cordate ovate, acute, on short petioles; branches virgate, 4 margined; flowers axillary, solitary, hexandrous.

Pursh, 1. p. 334. Nutt. 1. p. 303.

A very elegant and ornamental species. Branches brown, at first erect, at length recurved, and then sending out numerous axillary branches. *Flowers* often double the length of the leaves, deep and bright purple, minutely bibracteate after the manner of the genus. *Leaves* not much larger than those of thyme, which they somewhat resemble. *Stigma* conspicuously capitate. *Capsule* somewhat cylindrical, 2 celled. Nutt.

Grows in the lower districts of Georgia. Enslen.

Flowers June—July. Pursh.

3. LINEARE.

L. glabrum, virgatum; foliis suboppositis, linearibus, acutis; floribus axillaribus, solitariis, 6-andris. Sp. pl. 2. p. 868.	Glabrous, virgate; leaves generally opposite, linear, acute; flowers axillary, solitary, hexandrous.

Mich. 1. p. 280. Pursh, 1. p. 334. Nutt. 1. p. 303.

Plant 3—4 feet high. *Leaves* somewhat succulent and opaque, 6—7 lines long, 1 wide. *Flowers* small, nearly white, bibracteate.—Nutt.

Grows near the sea-coast of Virginia and Carolina.

Flowers July—August.

CUPHEA. JACQUIN.

Calyx ventricosus, tubulosus, 6—12 dentatus, inæqualis. *Petala* 6, inæqualia, calyci inserta. *Capsula* 1-locularis, cum calyce longitudinaliter dehiscens.	*Calyx* ventricose, tubular, 6—12 toothed, unequal. *Petals* 6, unequal, inserted on the calyx. *Capsule* 1 celled, with the calyx bursting longitudinally.

1. VISCOSISSIMA.

C. viscosa; foliis oppositis, petiolatis, ovato-oblongis; floribus dodecandris, lateralibus, solitariis, brevissime pedunculatis. Pursh, 1. p. 335.	Viscid; leaves opposite, petiolate, ovate oblong; flowers dodecandrous, lateral, solitary, on short peduncles.

Sp. pl. 2. p. 870. Mich. 1. p. 281. Nutt. 1. p. 304.

A small herbaceous plant, rarely exceeding 18 inches in height, branching, decumbent and erect, hairy and viscid. *Leaves* smooth, entire. *Calyx* cylindrical, striate. *Petals* purple. *Stamens* inserted in the throat of the calyx. *Capsule* oblong. *Seeds* few, lenticular, imbricate. The *capsule* is said to burst before the seed is mature, which then ripens while naked and exposed to the atmosphere.

Grows along the mountains. Collected near the Saluda mountains, by Dr. Macbride.

Flowers July—August.

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DI—PENTAGYNIA.

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FOTHERGILLA. GEN. PL. 922.

Calyx inferus, truncatus, obsolete crenatus. *Corolla* 0. *Filamenta* longa, clavata. *Germen*	*Calyx* inferior, truncate, obscurely crenate. *Corolla* 0. *Filaments* long, clavate. *Germ* 2-

bifidum. *Capsula* 2 locularis. *Semina* solitaria, ossea.	cleft. *Capsule* 2-celled. *Seeds* solitary, bony.

1. ALNIFOLIA.

Sp. pl. 2. p. 1224. Pursh, 1. p. 335. Nutt. 1. p. 304.
F. Gardeni, Mich. 1. p 313.

A shrub 2—4 feet high, stoloniferous, virgate. *Leaves* oval or obovate, crenate near the summit, pubescent on the under surface. *Flowers* in compact terminal spikes. *Stamens* numerous, inserted near the summit of the calyx, long, white, sometimes tinged with pink. *Stigmas* long, slender, recurved. *Capsule* 2 celled, each cell 2 valved, 1 seeded.

Grows along the margins of swamps.

Flowers March—April.

This plant varies much in the form of the leaves and in the colour of its stamens, and perhaps includes more than one species. It begins to flower before the leaves unfold, but the leaves generally expand before the flowers decay

CRATÆGUS. GEN. PL. 854.

Calyx superus, 5-fidus. *Petala* 5. *Styli* 2—5. *Bacca* 2—5 sperma. *Semina* ossea.	*Calyx* superior, 5-cleft. *Petals* 5. *Styles* 2—5. *Berry* 2—5 seeded. *Seeds* bony.

1. PARVIFOLIA.

C. spinosa; foliis obovatis, inciso-serratis, basi integris, tomentosis; calycibus laciniatis; floribus solitariis, 5-gynis. E.	Spiny; leaves obovate, deeply serrate, entire at base, tomentose; calyx laciniate; flowers solitary, pentagynous.

Sp. pl. 2. p. 1002. Pursh, 1 p. 339.
C. tomentosa, Mich. 1. p. 289.
Mespilus laciniata, Walt. p. 147.

A shrub 3—6 feet high, forming, with its numerous geniculate and divaricate branches, almost a regular spherical figure; the young branches tomentose; spines very numerous, 3—4 inches long, slender. *Leaves* alternate, generally acute, on short petioles. *Flowers* terminal, on short lateral branches, generally solitary. *Calyx* very tomentose, with 2 or 3 bracteas at their base; the segments lanceolate, handsomely divided. *Petals* white, nearly round. *Fruit* greenish yellow, eatable.

Grows in dry soils.

Flowers April—May. Fruit ripens in October. *Winter-Haw.*

2. CRUS GALLI.

C. spinosa; foliis obovato-cuneiformibus, serratis, subsessilibus, nitidis; corymbis compositis; foliolis calycinis lanceolatis, serratis; floribus digynis. Sp. pl. 2. p. 13.	Spiny; leaves obovate cuneate, serrate, nearly sessile, shining; corymbs compound; segments of the calyx lanceolate, serrate; flowers digynous.

Walt. p. 147? Mich. 2. p. 288? Pursh, 1. p. 338.

A shrub of middling height. *Spines* long, very numerous. *Leaves* obtuse and acute, irregularly serrate, very glabrous. *Flowers* in terminal, compound corymbs. Segments of the *calyx* narrow, acute, sometimes serrate. (*Fruit* small, red. Pursh.)

Grows in woods and along the banks of rivers.

Flowers April—May.

3. LUCIDA.

C. spinosa; foliis cuneato-obovatis, crenatis, coriaceis, lucidis; corymbis simplicibus, paucifloris; floribus 5-gynis. E.	Spiny; leaves cuneate obovate, crenate, coriaceous, lucid; corymbs simple, few flowered; flowers pentagynous.

C. unilateralis? Pers. 2. p. 37.

A shrub 10—12 feet high. *Spines* short, scarcely an inch long, very strong. *Leaves* on very short branches from the base of the spines, irregularly crenate. *Flowers* few, rarely exceeding 3, terminal, on small lateral branches. *Styles* 5. *Berry* 5 seeded.

This species appears to me very distinct from the preceding, with which it has been confounded. Its leaves are much smaller, more coriaceous and lucid, and it differs also by its smaller corymbs and pentagynous flowers.

The great differences between the southern and nothern species of C. crus galli lead me to suspect, that there are still other species concealed under this name.

Grows on the margin of the Ogeechee river, just where the tides cease to flow.

Flowers April.

4. PUNCTATA.

C. spinosa inermisve; foliis obovato-cuneiformibus, glabris, serratis; ca-	Spiny or unarmed; leaves obovate cuneate, glabrous, serrate; calyx

lycibus subvillosis, laciniis subulatis, integris. Sp. pl. 2. p. 1004.	villous, the segments subulate, entire.

Mich. 1. p. 289. Pursh, 1. p. 338.

A small tree. *Leaves* large, plaited, doubly toothed near the summit, hairy underneath at the branching of the nerves. *Corymbs* tomentose. *Fruit* yellow, dotted, (Mich.) sometimes red, (Willd.)
Grows in the upper districts of Carolina. Mich.
Flowers

5. TURBINATA. Pursh.

C. inermis, glabra; foliis cuneato-obovatis, incisis, serratis; corymbis paucifloris; pedicellis brevibus; fructibus turbinatis. Pursh, 2. p. 735	Unarmed, glabrous; leaves cuneate obovate, notched, serrate; corymbs few flowered; pedicels short; fruit turbinate.

Resembling C. spathulata, but distinguished by its fruit from every other American species. Pursh.
Grows in Carolina and Virginia.
Flowers

6. ELLIPTICA.

C. spinosa; foliis ellipticis, inæquliter serratis, glabris; petiolis calycibusque glandulosis; baccis globosis, pentaspermis. Sp. pl. 2. p. 1002.	Spiny; leaves elliptic, unequally serrate, glabrous; petioles and calyx glandular; berries globular, 5 seeded.

Pursh, 1. p. 337.

Segments of the *calyx* obtuse. *Fruit* small, red. Pursh.
Grows in copses and dry swamps.
Flowers April—May.

To this species probably belongs the Mespilus Æstivalis of Walter. A shrub 8—10 feet high. *Leaves* elliptic or obovate, unequally and rather coarsely serrated, hairy underneath at the axils of the leaves, on short petioles, without glands. *Flowers* in small corymbs. *Fruit* large, red, acid, used for tarts or preserves.
Grows in ponds.
Flowers February—March. Ripens its fruit in June.

7. PYRIFOLIA.

C. spinosa inermisve; foliis ovato-ellipticis, inciso-serratis, subplicatis, subhirtis; calycibus villosis; foliolis lineari-lanceolatis, serratis; floribus trigynis. Sp. pl. 2. p. 1001.

Spiny or unarmed; leaves ovate elliptic, deeply serrate, somewhat plaited and hairy; calyx villous; leaflets linear lanceolate, serrate; flowers trigynous.

Pursh, 1. p. 337.

Leaves large, acute, sometimes acuminate at each end, slightly lobed, irregularly serrate. *Corymbs* many flowered. *Peduncles* and *calyx* tomentose.

Grows in rocky and gravelly soils, and on the banks of rivers. Pursh.

Flowers

8. ARBORESCENS. E.

C. inermis; foliis lanceolatis, utrinque acutis, inciso-serratis, supra glabris; corymbis multifloris; calycibus pilosis, laciniis subulatis, integris; floribus pentagynis. E.

Unarmed; leaves lanceolate, acute at each end, deeply serrate, glabrous on the upper surface; corymbs many flowered; calyx hairy, with the segments subulate, entire; flowers pentagynous.

A small tree, 20—30 feet high, with spreading branches. *Leaves* on short petioles, irregularly serrate, sometimes slightly lobed towards the summit, hairy underneath at the division of the veins. *Petioles* a little hairy along the margins. *Stipules* linear lanceolate, shorter than the petioles, caducous. *Peduncles* and *calyx* a little hairy; segments of the calyx obtuse, reflected. *Petals* white. In the old trees which I saw I could discover no spines.

I insert this species with some hesitation, yet I know not that it has been described. Its leaves resemble much those of the C. pyrifolia, but are smaller, less distinctly plaited, and, excepting in the axils of the veins, glabrous. Its calyx and pentagynous flowers also distinguish it from that species.

Grows at Fort Argyle on the Ogeechee river.

Flowers March.

9. FLAVA.

C. spinosa; foliis obovato-cuneatis, angulatis, glabris, nitidis: petiolis, stipulis calycibusque glandulosis; floribus subsolitariis; baccis turbinatis, tetraspermis. Sp. pl. 2. p. 1002.

Spiny; leaves obovate cuneate, angled, glabrous, shining; petioles, stipules and calyx glandular: flowers generally solitary; berries turbinate, 4 seeded.

Pursh, 1. p. 338.
C. viridis? Walt. p. 147.

Plant 8—10 feet high. *Spines* short, rather strong; young branches and *leaves* villous; old leaves obtuse and lobed at the summit, finely serrate, hairy along the veins on both surfaces, abruptly narrowed at base. *Stipules* somewhat reniform, and, with the *petioles* and segments of the *calyx*, serrated with globular glands. *Corymbs* few flowered. *Fruit* globular.

This description is taken from the C. viridis of Walter, a plant which I refer here with much hesitation, and in which the corymbs are generally 5—6 flowered.

Grows in the middle and upper country of Carolina.

Flowers March—April.

Here also apparently belongs the summer haw of our southern sea-islands. An arborescent shrub, 8—14 feet high, with coarse rimose bark, resembling that of the oak. *Leaves* tapering at base, nearly sessile, not serrate, merely margined with glandular dots, pubescent in the axils of the veins and on the petioles: the young leaves sometimes slightly lobed, obtuse, with a small point at the summit. *Flowers* frequently solitary, sometimes in very small corymbs, pentagynous. *Fruit* oval, red, 4 seeded, well flavoured.

Grows in sandy soils; ripens its fruit in August. This variety differs from the C. viridis of Walter by its leaves, which are much more glabrous, and different in their serratures, and by flowers less numerous in each corymb.

10. VIRIDIS?

C. spinosa; foliis subsessilibus, spathulato-ovatis, rotundato-lobatis, serratis, glabris; calycibus glabris, laciniis glanduloso-serratis. E.

Spiny; leaves nearly sessile, spathulate ovate, with round lobes, serrate, glabrous; calyx glabrous, the segments with glandular serratures.

Sp. pl. 2. p. 1001.
Mespilus hyemalis, Walt. p. 148.

Branches slender, with long, slender spines. *Leaves* nearly sessile, ovate, spathulate at base, generally seven lobed, of which the two lower are more distinct than the rest; lobes round in the mature leaf, acute in the young. *Flowers* in small corymbs.

This description is taken from specimens sent me by Dr. Muhlenberg as the real C. viridis of Linnæus. It is certainly a species very distinct from the C. coccinea. To this plant however the synonyme of Gronovius, 163, cannot be referred. The C. glandulosa, Mich 1. p. 288, which Pursh has referred to the C. flava, probably belongs here.

The apple-haw of the low country of Carolina apparently belongs to this species. An arborescent shrub, 8—14 feet high, with crooked rigid branches. *Leaves* nearly round, glabrous, 7 lobed, abruptly terminating at base in a petiole nearly an inch long. *Flowers* in small corymbs. *Fruit* very large, round, red, 3—4 seeded.

Grows Pensylvania—Carolina.

Flowers

11. SPATHULATA. Mich.

C. subspinosa; foliis fasciculatis, longe cuneatis, 3-fidis lobatisque, crenatis, glabris; corymbis multifloris; calycibus glabris, laciniis ovatis, integerrimis. E.	Somewhat spiny; leaves clustered, with a long tapering base, 3 cleft and lobed, crenate, glabrous; corymbs many flowered; calyx glabrous, segments ovate, entire.

Mich. 1. p. 288. Pursh, 1. p. 336.

A small tree 12—15 feet high. *Leaves* in short lateral fascicles, some distinctly 3 cleft, others irregularly lobed, the lobes all crenate, the base long and tapering to a petiole. *Flowers* in lateral corymbs, numerous, on pedicels nearly as long as the leaves. *Calyx* small, glabrous; segments short, ovate obtuse *Corolla* white. *Styles* 5.

Grows in the upper Districts of Georgia and Carolina; in Columbia county, Georgia, common—I have not seen it in the low country.

Flowers April.

12. APIIFOLIA. Mich.

C. spinosa; foliis deltoideo-ovatis, inciso-lobatis, lobis inciso-serratis, pilosis; calycibus pilosis, laciniis serratis; floribus digynis.	Spiny; leaves deltoid ovate, notched and lobed, lobes deeply serrate, hairy; calyx hairy, with the segments serrate; flowers digynous.

Mich. 1. p. 287. Pursh, 1. p. 336.
C. oxyacantha. Walt. p. 147.

A handsome shrub 4—12 feet high. *Leaves* in small fascicles, on long petioles. *Stipules* linear lanceolate, nearly glabrous *Spines* 1—2 inches long. *Corymbs* simple, few flowered (5—6). *Calyx* turbinate, hairy segments reflected. *Corolla* white. *Styles* generally 2, sometimes 3.

Grows in close damp soils.

Flowers March—April.

13. POPULIFOLIA. Walt.

C. spinosa; foliis ovatis, basi subtruncatis, acutissime serratis sublobatisque; petiolis parce glandulosis; floribus pentagynis. E.	Spiny; leaves ovate, somewhat truncate at base, very acutely serrate and slightly lobed; petioles sparingly glandular; flowers pentagynous.

Walt. p. 147.

A shrub, with slender branches, and very large strong spines which are sometimes branched. *Leaves* small, with the serratures acuminate. *Petioles* nearly an inch long, and, with the leaves, sprinkled with a few hairs. *Flowers* in small corymbs, white.

This plant bears no resemblance to the C. cordata of this sketch, but much to the C. coccinea. It differs however from that by its leaves, which are much smaller, more ovate and obtuse at base. The leaves of this species indeed are so obtuse at base that they must frequently become subcordate.

Grows St. Johns, Santee.

Flowers April.

14. COCCINEA.

C. spinosa; foliis longe petiolatis, ovatis, acutissime lobatis serratisque, glabris; petiolis, calycibusque pubescentibus, glandulosis; floribus pentagynis. E.	Spiny; leaves on long petioles, ovate, very acutely lobed snd serrate, glabrous; petioles and pubescent calyx glandular; flowers pentagynous.

Sp. pl 2 p. 1000. Mich. 1. p. 288. Pursh, 1. p. 337.

A small tree. *Leaves* obtuse at base, scarcely cordate, glabrous when mature, lobes numerous, generally acuminate, sharply serrate. *Corymbs* many flowered. *Peduncles* hairy. *Flowers* white. *Fruit* red, large, eatable.

Grows from Canada to Carolina, along the mountains.

Flowers

15. CAROLINIANA.

C. foliis cordatis, cuneiformibus. integris, dentatis, 3—5 lobisque; pedunculis bracteatis; calycibus subfoliaceis. Poir. Ency. 4. 443. *sub Mespilo.*	Leaves cordate, cuneate, entire, dentate, 3—5 lobed; peduncles bracteate; calyx somewhat leafy.

Pers. 2. p. 36.

This species is an obscure one. The description is not satisfactory, but it can scarcely be a synonyme of the C. flava, where Pursh has placed it.

Fruit yellow, pear-shaped.

Grows in Carolina.
Flowers

16. CORDATA.

C. spinosa; foliis cordato-ovatis, pinnatifido-lobatis angulatisque, glabris; petiolis calycibusque eglandulosis; floribus pentagynis.	Spiny; leaves cordate ovate, pinnatifid, lobed and angled, glabrous; petioles and calyx without glands; flowers pentagynous.

Sp. pl. 2. p. 1000.
C. populifolia, Pursh, 1. p. 337.

A large shrub. *Leaves* 3--5—7 lobes, acuminate, acutely serrate, when young pubescent along the veins. *Petioles* slender, short. *Stipules* subulate, serrate. *Corymbs* compound. Segments of the *calyx* short, obtuse. *Fruit* small, globose, depressed, red.

Grows along the banks of rivers near the mountains.
Flowers

This genus is probably an extensive one. Our southern species require to be compared more carefully with those of the northern states than has yet been done. Some of the species enumerated above are obscure. and some more might have been added. The C. coccinea of Walter seems to differ from any species I have described, resembling most the C. viridis, but with some leaves pinnatifid as in C. cordata. In this genus however the leaves on the young branches differ frequently so much from those on the old, that specimens are to be viewed with great caution.

SORBUS. GEN. PL. 855.

Calyx superus, 5-fidus. *Petala* 5. *Styli* 3. *Bacca* 3-sperma. *Semina* cartilaginea.	*Calyx* superior, 5 cleft. *Petals* 5. *Styles* 3. *Berry* 3 seeded. *Seeds* cartilaginous.

1. MICROCARPA.

S. foliis pinnatis; foliolis acuminatis, inæqualiter inciso-serratis, petioloque communi glabris; serraturis setaceo-mucronatis. Pursh. 1 p. 341.	Leaves pinnate; leaflets acuminate, unequally and deeply serrate, and with the common petiole glabrous; serratures mucronate with bristles.

S. aucuparia, *var. a.* Mich. 1. p. 290.

A large shrub; the young branches dark and glossy. *Berries* small, scarlet. Pursh.

Grows on the highest mountains.

Flowers June.

SESUVIUM. GEN. PL. 856.

Calyx 5-partitus, coloratus. *Petala* 0. *Capsula* ovata, 3-locularis, circumscissa, polysperma.	*Calyx* 5 parted, coloured. *Petals* 0. *Capsule* ovate, 3 celled, circumscissed, many seeded.

1. PEDUNCULATUM? DeCandolle.

S. foliis lineari-lanceolatis, obtusis, carnosis; floribus solitariis, axillaribus, pedunculatis, polyandris. E.	Leaves linear lanceolate, obtuse, succulent; flowers solitary, axillary, on short peduncles, polyandrous.

Pers. syn. 2. p. 39.

S. portulacastrum, Sp. pl. 2. p 1009.

Stem prostrate, terete, jointed, succulent, very glabrous, branching. *Leaves* opposite, very entire, succulent, tapering at base to a very short petiole. *Peduncles* about half an inch long. *Calyx* persistent; segments acute, the interior with the margins membranaceous, white on the inner surface. *Filaments* very numerous (50—60), inserted

into the base of the calyx, unequal, white, shorter than the calyx. *Anthers* didymous, of a beautiful rose colour. *Germ* superior. *Styles* 3, a little longer than the stamens. *Stigmas* simple, obtuse. *Seeds* numerous, reniform, blue, attached to a central receptacle.

The capsule of this plant has perhaps been incorrectly considered as circumscissed. It has towards the summit three sutures distinctly marked, but the base is membranaceous, very delicate, and appears to decay or tear as the seed becomes mature, suffering the more substantial summit to fall off without opening.

Grows on the drifting sands along the margin of the ocean.

Flowers July—November.

2. PENTANDRUM. E.

S. foliis lineari-lanceolatis, obtusis, carnosis; floribus solitariis, arcte sessilibus, pentandris. E.

Leaves linear lanceolate, obtuse, succulent; flowers solitary, closely sessile, pentandrous.

S. sessile? Pers. syn. 2. p. 39.
Pharnaceum maritimum, Walt. p. 117.

To the preceding species this has an entire resemblance, differing only in its sessile flowers, which are regularly pentandrous. The description of the S. sessile in Persoon is too short to enable me to determine whether we mean the same plant. Yet I cannot imagine that if this plant had been before Mons. De Candolle, by whom the S. sessile was established, so remarkable a character as its pentandrous flower would have escaped his notice.

It is a little singular that Walter should have noticed this species, which is very rare even in Charleston harbour where only I have seen it, and overlooked the preceding, which is common, and diffused along our whole coast. I believe, however, that Walter's knowledge of our sea-coast plants was principally derived from the late Mr. Robert Squibb, who resided in Charleston.

Grows along the margins of the salt water, around Charleston. Sullivan's Island; Dr. Macbride.

Flowers July—November.

ARONIA. PERS.

Calyx 5-dentatus. *Petala* 5. *Bacca* infera, 5—10-locularis, loculis 1—2-spermis. *Semina* cartilaginea.

Calyx 5 toothed. *Petals* 5. *Berry* inferior, 5—10 celled, cells 1—2 seeded. *Seeds* cartilaginous.

1. ARBUTIFOLIA.

A. inermis; foliis obovatis, acuminatis, crena-

Unarmed; leaves obovate, acuminate, crenate

to-dentatis, subtus tomentosis; floribus corymbosis; calycibus tomentosis. Sp. pl. 2. p. 1012.	dentate, tomentose underneath; flowers in corymbs; calyx tomentose.

Pursh, 1. p. 339.
Mespilus arbutifolia, *var.* erythrocarpa, Mich. 1. p. 291. Walt. p. 148.

A shrub 3—8 feet high, sparingly branched. *Leaves* alternate, sometimes lanceolate, on petioles scarcely half an inch long. *Flowers* in terminal corymbs. *Calyx* campanulate; the segments erect, acute, serrate with glands. *Petals* nearly round, with short claws at base, white, tinged when young with red. *Stamens* 20—24, shorter than the corolla. *Anthers* rose coloured. *Germ* superior, very villous. *Styles* shorter than the stamens. *Stigmas* globose. *Fruit* small, red.

Var. *a. tomentosa;* with the stem 5—8 feet high; calyx and under surface of the leaves tomentose.
—— *b. glabra;* with the stem 3—5 feet high; calyx glabrous; leaves when expanding a little hairy, when mature glabrous on both surfaces.

Grows in damp soils, along the margins of swamps, &c.
Flowers March—April.

2. MELANOCARPA.

A. inermis; foliis obovato-oblongis, acuminatis, serratis, subtus glabris; floribus corymbosis; calycibus glabris.—Willd. enum. 525.	Unarmed; leaves obovate oblong, acuminate, serrate, glabrous underneath; flowers in corymbs; calyx glabrous.

Pursh, 1. p. 339.
Mespilus arbutifolia, *var.* melanocarpa, Mich. 1. p. 292.

Berries large, black.

I have never seen this mountain species or variety of Aronia, but it appears to differ in nothing but its fruit from the glabrous variety of the A. arbutifolia.

Grows on the high mountains of Virginia and Carolina.
Flowers May.

3. BOTRYAPIUM.

A. inermis; foliis cordato-ovalibus, acuminatis, adultis glabris; floribus racemosis; petalis lineari-lanceolatis; ger-	Unarmed; leaves cordate oval, acuminate, when mature glabrous; flowers in racemes; petals linear lanceolate;

minibus pubescentibus; calycis segmentis glabris. Sp. pl. 2. p. 1013.	germs pubescent; segments of the calyx glabrous.

Pursh, 1. p. 339.
Mespilus Canadensis? Walt. p. 148.
—— – ———— *var.* cordata, Mich. 1. p. 291.

A small tree, 10—12 feet high. *Leaves*, particularly when young, heart shaped and covered with a silky pubescence; in the old leaves these characters frequently disappear. *Flowers* in simple, terminal racemes, expanding before the leaves. *Calyx* villous on the interior surface. *Petals* white, obtuse, slightly 2 toothed at the summit, 4 times as long as the calyx. *Filaments* unequal, much shorter than the corolla. *Styles* pubescent at base, as long as the shorter stamens. *Fruit* red, eatable.

Grows in rich, light soils.

Flowers February—March.

4. OVALIS.

A. inermis; foliis subrotundo-ellipticis, acutis, glabris; floribus racemosis; petalis obovatis; germinibus calycisque segmentis pubescentibus. Sp. pl. 2. p. 1014.	Unarmed; leaves elliptic, nearly round, acute, glabrous; flowers in racemes; petals obovate; germ and segments of the calyx pubescent.

Pursh, 1. p. 340.
Mespilus Canadensis, *var.* obovalis, Mich. 1. p. 291.
M. Amelanchier? Walt. p. 148.

A small shrub, 2—3 feet high. *Leaves* very glabrous when old. *Flowers* in simple, terminal racemes. (*Fruit* black, eatable. Pursh.)

Rare in the low country. I have only seen it once in stiff clay soil, about 12 miles from Savannah, on the Augusta road.

Flowers March.

PYRUS.

Calux superus, 5-fidus. *Petala* 5. *Styli* 5. *Pomum* magnum, carnosum, 5-loculare, polyspermum. *Semina* cartilaginea.	*Calyx* superior, 5 cleft. *Petals* 5. *Styles* 5. *Apple* large, fleshy, 5 celled, many seeded. *Seeds* cartilaginous.

1. CORONARIA.

P. foliis lato-ovalibus, basi rotundatis, subangulatis, serratis, lævibus; pedunculis corymbosis. Sp. pl. 2. p. 1018.	Leaves broad oval, round at base, somewhat angled, serrate, smooth; peduncles corymbose.

Pursh, 1. p. 340.
Malus coronaria, Mich. 1. p. 292.

A tree, 20—30 feet high, with spreading branches. *Leaves* large, frequently ovate, with irregular serratures. *Flowers* ornamental, very fragrant, in large terminal corymbs. *Fruit* depressed, umbilicate.

Grows in the upper districts of Carolina and Georgia.

Flowers April.

2. ANGUSTIFOLIA.

P. foliis oblongo-lanceolatis, basi acutis, leviter crenato-dentatis, nitidis; pedunculis corymbosis. Sp. pl. 2. p. 1020.	Leaves oblong lanceolate, acute at base, slightly crenate dentate, shining; peduncles corymbose.

Pursh, 1. p. 340.
Pyrus coronaria, Walt. p. 148.
Malus angustifolia, Mich. 1. p. 292.

A small tree, 15—20 feet high, resembling the preceding species very much, but differing in the size of the leaves and fruit, and somewhat in the figure of the leaves themselves. The flowers, like those of the preceding species, are very beautiful and fragrant.

Grows in stiff, damp, clay soils.

Flowers March.

SPIRÆA. GEN. PL. 862.

Calyx inferus, 5-fidus, patens. *Petala* 5, æqualia, subrotunda. *Stamina* plurima, exerta. *Capsulæ* plurimæ (3—12), interne bivalves, 1—3 spermæ.	*Calyx* inferior, 5 cleft, expanding. *Petals* 5, equal, nearly round. *Stamens* numerous, exserted. *Capsules* many (3—12), 2 valved on the inner side, 1—3 seeded.

1. Salicifolia.

S. foliis lanceolatis, argute serratis, glabris ; racemo terminali composito, paniculato ; floribus pentagynis. Sp. pl. 2. p. 1055.	Leaves lanceolate, sharply serrate, glabrous ; racemes terminal, compound, panicled ; flowers pentagynous.

Mich. 1. p. 293. Pursh, 1. p. 341. Nutt. 1. p. 307.

A shrub, 3—6 feet high, with the young branches slender, somewhat angled and slightly pubescent. *Leaves* slightly glaucous underneath, a little hairy along the veins and margin. Segments of the *calyx* lanceolate, inflected after the flowers fall. *Petals* shorter than the calyx, white, with very short claws. *Stamens* inserted on a glandular ring at the summit of the tube of the calyx. *Germs* 5, united at base. *Styles* shorter than the stamens. *Capsules* 5. *Seeds* many in each capsule.

Grows in the upper districts of Carolina.

Flowers June—July.

2. Tomentosa.

S. foliis ovato-lanceolatis, inæqualiter serratis, subtus tomentosis ; racemo terminali composito, confertifloro ; floribus pentagynis. Sp. pl. 2. p. 1056.	Leaves ovate lanceolate, unequally serrate, tomentose underneath ; racemes terminal, compound, thickly flowered ; flowers pentagynous.

Mich. 1. p. 293. Pursh, 1. p. 341. Nutt. 1. p. 307.

A shrub, 3—6 feet high, with the young virgate branches ferruginous and tomentose. *Leaves* sometimes oval or lanceolate, rugose, hoary underneath. *Calyx* tomentose; segments reflected ? *Petals* small, purple, sometimes 3 lobed, hairy on the outer surface. *Stamens* and *styles* as long as the corolla. *Seeds* few in each capsule.

Grows in the upper districts of Carolina and Georgia.

Flowers June—July.

3. Opulifolia.

S. foliis ovatis, lobatis, duplicato-dentatis crenatisve, glabris ; corymbis terminalibus, confertiflo-	Leaves ovate, lobed, doubly toothed or crenate, glabrous ; corymbs terminal, thickly flower-

ris; floribus trigynis; capsulis inflatis. Sp. pl. 2. p. 1059.	ed; flowers trigynous; capsules inflated.

Mich. 1. p. 293. Pursh, 1. p. 342. Nutt. 1. p. 307.

A shrub, like the preceding species, with lobed leaves. *Flowers* clustered, white, in umbellate corymbs.

Grows along water courses among the mountains of Carolina and Georgia.

Flowers June—July.

4. ARUNCUS.

S. foliis 2—3-pinnatis; spicis paniculatis; floribus trigynis, dioicis. Sp. pl. 2. p. 343.	Leaves 2—3 pinnate; spikes in panicles; flowers trigynous, dioicous.

Mich. 1. p. 294. Pursh, 1. p. 343. Nutt. 1. p. 307.

Root perennial. Plant glabrous. *Flowers* small, composed of numerous slender spikes.

Grows on the mountains of Carolina and Georgia.

Flowers June—July.

5. LOBATA.

S. foliis pinnatis, glabris, impari madjore. 7-lobo, lateralibus 3-lobis; corymbis proliferis. Sp. pl. 2. p. 1062	Leaves pinnate, glabrous, the terminal one large. 7 lobed, the lateral 3 lobed; corymbs proliferous.

Mich. 1. p. 294. Pursh, 1. p. 343 Nutt. 1. p. 307.

Root perennial. *Leaflets* somewhat palmate; lobes lanceolate, doubly serrate. *Cyme* compound. *Flowers* rose coloured, with 3—5 styles. Mich.

Grows in fertile, wet meadows, near the mountains.

Flowers June—August.

GILLENIA. MOENCH.

Calyx subcampanulatus, 5-dentatus. *Petala* 5, lanceolata, basi alternata. *Stamina* pauca,	*Calyx* somewhat campanulate, 5 toothed. *Petals* 5, lanceolate, tapering at base. *Stamens* few,

inclusa. *Styli* 5. *Capsula* 5-locularis, loculis 2-spermis.	included. *Styles* 5. *Capsule* 5-celled, cells 2 seeded.

1. TRIFOLIATA.

G. foliis ternatis, lanceolatis, serratis ; stipulis linearibus, integris ; floribus laxe paniculatis, 5-gynis ; calyce tubuloso, campanulato.	Leaves ternate, lanceolate, serrate ; stipules linear, entire ; flowers in loose panicles, 5-gynous ; calyx tubular, campanulate.

Nutt. 1. p. 307.
Spiræa trifoliata, Sp. pl. 2. p. 1063. Mich. 1. p. 294. Pursh, 1. p. 343.

Root perennial. *Stem* herbaceous, 1—2 feet high. *Leaves* lanceolate, slightly acuminate, doubly serrate, with the serratures acuminate, glabrous. *Stipules* very minute. *Panicle* terminal, few flowered. *Petals* long, white.

The capsules appear to me certainly distinct, as in Spiræa.

Grows in the upper districts of Carolina and Georgia.

Flowers June—August.

2. STIPULACEA. Muhl.

G. foliis ternatis, lanceolatis, inciso-serratis ; stipulis foliaceis, ovatis, inciso-dentatis ; floribus laxe paniculatis, 5-gynis ; calyce campanulato.—Willd. enum.	Leaves ternate, lanceolate, deeply serrate ; stipules leaf-like, ovate, notched and toothed ; flowers in loose panicles, 5-gynous ; calyx campanulate.

Nutt. 1. p. 303.
Spiræa stipulacea, Muhl. Cat. Pursh, 1. p. 343.

In habit resembling the preceding species. *Leaves* narrow, lanceolate, deeply serrate, glabrous. *Stipules* large, leaf-like, ovate, lanceolate, deeply notched. *Flowers* white.

Grows near the Saluda mountains. Dr. Macbride.

Flowers June—July.

POLYGYNIA.

ROSA. Gen. pl. 863.

Calyx urceolatus, collo coarctatus, 5-fidus. *Petala* 5. *Semina* plurima, hispida, calycis interiori lateri affixa.	*Calyx* urceolate, contracted at the throat, 5 cleft. *Petals* 5. *Seeds* numerous, hispid, attached to the interior side of the calyx.

1. Parviflora.

R. fructibus globosis, pedunculisque hispidis; petiolis pubescentibus, subaculeatis; aculeis stipularibus rectis; foliolis elliptico-lanceolatis, simpliciter serratis, glabris; floribus subgeminatis.—Pursh, 1. p. 344.	Fruit globose, and, with the peduncles, hispid; petioles pubescent, somewhat prickly; the stipular prickles straight; leaves elliptic lanceolate, simply serrate, glabrous; flowers generally in pairs.

Sp. pl. 2. p. 1068.
R. Caroliniana, Mich. 1. p. 295.

Root creeping. *Stem* about 2 feet high, glabrous, dotted; branches somewhat geniculate. *Leaves* quinate; the lateral leaflets generally oval, obtuse; the terminal lanceolate, acute—all a little hairy but lucid on the upper surface, pubescent and paler on the lower. *Spines* by pairs at the base of each petiole, generally straight, sometimes recurved, smaller ones irregularly scattered along the stem. *Flowers* terminal, solitary, sometimes by pairs. *Calyx* somewhat hispid; the segments subulate, acuminate, the 3 exterior laciniate. *Petals* obovate, emarginate. The mature *fruit* nearly glabrous.

Grows in dry, fertile soils; in Chatham county, Georgia, not uncommon.

Flowers May—June.

2. Lucida.

R. fructibus depresso-globosis, pedunculisque subhispidis; petiolis gla-	Fruit globular, depressed, and, with the peduncles, somewhat hispid;

bris, subaculeatis; caule glabro; aculeis stipularibus rectis; foliolis ovato-lanceolatis, obtusiusculis, grosse serratis, glabris, nitidis; floribus subgeminis; calycis foliolis integris. Pursh, 1. p. 344.

petioles glabrous and a little prickly; stem glabrous; stipular prickles straight; leaflets ovate lanceolate, obtuse, with large serratures, glabrous, shining; flowers generally in pairs; segments of the calyx entire.

Sp. pl. 2. p. 1068.
R. Carolina? Walt. p. 149.

A shrub, 4—6 feet high, with creeping roots, and erect, glabrous, coloured stems; small branches somewhat geniculate and hairy. *Leaflets* generally seven, rather acute, pubescent along the margin and the under surface, paler beneath; prickles in pairs, *recurved*. *Flowers* in small corymbs; the branches frequently triflorous. Segments of the *calyx* foliaceous, longer than the corolla, pubescent, *three of them laciniate*, two simple. *Petals* obcordate.

I am not certain that the plant I have described is the real R. lucida of Willdenow, and therefore I have left the specific character unaltered, although the description below will be found to differ from it in several particulars. This species has usually been considered in this country as the R. Caroliniana.

Grows along the margins of swamps. Common.

Flowers May.

3. Gemella.

R. fructibus depresso-globosis, pedunculisque glabris; floribus subgeminatis; foliis oblongis, acutis, opacis; petiolis, venisque subtus, pubescentibus; aculeis stipularibus uncinatis, geminatis. Willd. enum. 544.

Fruit globose depressed, and, with the peduncles, glabrous; flowers generally by pairs; leaves oblong, acute, opaque; petioles and under surface of the veins pubescent; stipular prickles hooked, by pairs.

Pursh, 1. p. 344.

Branches slender, somewhat smooth, and glaucous. *Leaflets* 7, smaller, thinner and more acutely serrate than the last, rather glaucous and downy beneath, their veins as if fringed. *Leaf-stalks* and *stipules* finely downy and hoary. *Flowers* terminal, in pairs on short, smooth peduncles, enveloped in large downy bracteas. *Germ* exactly globular, quite smooth and naked. Segments of the *calyx* smooth at the base, downy at the edges and toward the summit, simple, spathulate at the end. Smith in Rees Cyclop. *sub Rosa*.

Grows on dry, sunny hills. A low shrub, with large flowers. Pursh.
Flowers July.

4. SETIGERA. Mich.

R. fructibus globosis; petiolis venisque aculeatis; ramis glabris; aculeis geminis sparsisque; foliolis (3—5) acuminatis, glabris; calycis foliolis subpennatim setigeris. Mich. 1. p. 295.	Fruit globose, with the petioles and veins prickly; branches glabrous; prickles by pairs and scattered; leaflets (3—5) acuminate, glabrous; leaflets of the calyx feathered with bristles.

Pursh, 1. p. 345.

Leaves glabrous, acuminate. Prickles sparingly scattered along the branches, besides the pair at the base of each leaf. Mich.

Grows in the low country of Carolina.
Flowers

5. CAROLINA.

R. fructibus globosis, pedunculisque subhispidis; petiolis pilosis, subaculeatis; caule glabro; aculeis stipularibus subuncinatis; foliolis (5—7) oblongo-lanceolatis, acutis, argute serratis, subtus glaucis; floribus corymbosis. Pursh, 1. p. 345.	Fruit globose, and, with the peduncles, somewhat hispid; petioles hairy, somewhat prickly; stem glabrous; stipular prickles hooked; leaflets (5—7) oblong lanceolate, acute, sharply serrate, glaucous underneath; flowers in corymbs.

Sp. pl. 2. p. 1069.
R. Pennsylvanica, Mich. 1. p. 296.

A shrub, 5—6 feet high, erect, bushy, with red, smooth and somewhat glaucous branches. *Leaflets* large, finely serrate, glaucous and pubescent underneath. *Flowers* numerous in each corymb, large, crimson, on short peduncles. Smith, in Cyclop.

Grows in shaded, rich, damp soils. Rare in this country, from which its name has been derived. It is probable that the R. lucida, so common in our swamps, was really the original R. Carolina.
Flowers

6. LUTESCENS. Pursh.

R. fructibus globosis, pedunculisque glabris; ramulis hispido-spinosis; foliolis (7) glabris, ovalibus, acuminato-serratis; petiolis inermibus; floribus solitariis; laciniis calycis lanceolatis, cuspidatis; petalis ovalibus, obtusissimis. Pursh, 2. p. 735.	Fruit globose, and, with the peduncles, glabrous; branches hispid spiny; leaflets (7) glabrous, oval, with the serratures acuminate; petioles unarmed; flowers solitary; segments of the calyx lanceolate, cuspidate; petals oval, very obtuse.

Flowers white, with a faint tinge of yellow.

Grows in Carolina; Pursh. Cultivated in the gardens in England. Perhaps a garden variety.

Flowers

7. SUAVEOLENS.

R. fructibus ovatis; pedunculis petiolisque glanduloso-hispidis; caule glabro, aculeis tenuibus, subrecurvis; foliolis (5—7) rotundato-ellipticis, supra pubescentibus, subtus subglandulosis. Smith in Cyclop. *sub Rosa.*	Fruit ovate, with the peduncles and petioles glandularly hispid; stem glabrous, prickles slender, slightly recurved; leaflets (5—7) round elliptic, pubescent on the upper, glandular on the lower surface.

Pursh, 1. p. 346.

Branches long, slender; prickles long. *Flowers* pink, small, often but not always solitary. Segments of the *calyx* not always simple, 2 of them frequently pinnate. *Fruit* smooth or somewhat prickly. Smith.

Grows near the mountains, where it is called *wild sweet briar*, and is considered as indigenous.

Flowers May.

8. LÆVIGATA. Mich.

R. fructibus oblongis, hsipidis; foliis perennanti-	Fruit oblong, hispid; leaves perennial, ternate;

bus. ternatis ; foliolis lanceolatis, serratis, coriaceis, lucidis ; floribus solitariis, terminalibus. E.	leaflets lanceolate, serrate, coriaceous, lucid ; flowers solitary, terminal.

Mich. 1. p. 295. Pursh, 1. p. 345.

A shrub, with long flexible branches, which may be trained to 10, 15 or 20 feet high, but when left unsupported fall to the earth and take root ; branches glabrous, and armed with very strong recurved prickles. *Leaves* very glossy and smooth, prickly along the under side of the midrib, very rarely quinate. *Flowers* on small lateral branches. Segments of the *calyx* unequal, all acuminate, 2 leaflike at the summit, serrate. *Petals* white, obovate, obtuse, with a point irregularly crenulate.

This plant in its habit and appearance has very little resemblance to its congeners. It has been cultivated in the gardens in Georgia for upwards of 40 years, under the name of the "Cherokee Rose," but its origin is still obscure.

In our rural economy this plant will one day become very important. For the purpose of forming hedges, there is perhaps no plant which unites so many advantages. For quickness of growth, facility of culture, strength, durability and beauty, it has perhaps no rival.

Grows in moist soils, preferring close, rich loam.

Flowers April, principally, but occasionally through the summer.

RUBUS. Gen. pl. 864.

Calyx patens, 5-fidus. *Petala* 5. *Bacca* composita, acinis monospermis.	*Calyx* expanding, 5 cleft. *Petals* 5. *Berry* compound, with the acini or pulpy grains one seeded.

1. Villosus.

R. pubescens, hispidus aculeatusque ; caule angulato ; foliis (3—5) digitatis, ovali-lanceolatis, acuminatis, duplicato-serratis ; racemo laxo, pedicellis solitariis.	Pubescent, hispid and prickly ; stem angled ; leaves (3—5) digitate, oval lanceolate, acuminate, doubly serrate ; racemes loose, with the pedicels solitary.

Sp. pl. 2. p. 1085. Mich. 1. p. 297. Pursh, 1. p. 346.
R. fruticosus, Walt.

Root creeping, stoloniferous. *Stem* generally erect, 4—8 feet high, flexuous, branching ; the young branches pubescent, the old nearly glabrous: all armed with rigid, reflexed, prickles. *Leaves* frequently acute, villous, particularly on the under surface, prickly along the midrib, obtuse, and even slightly cordate at base; the intermediate leaflet longer, on a petiole about half an inch long, the lateral ones nearly sessile. *Stipules*, 2 at the base of each petiole, small, subulate, hairy. *Flowers* in simple racemes, which, from the length of the lower peduncles, resemble corymbs; a stipule at the base of each peduncle, ovate, generally 3 cleft, persistent. *Calyx* persistent; segments ovate, mucronate, hairy without, tomentose within. *Petals* obovate, white, 3—4 times as long as the calyx. *Filaments* short. *Anthers* at first nearly white, afterwards purple. *Fruit* black, tolerably well flavoured, though with a perceptibly bitter taste.

Grows in damp soils, forming compact and almost impenetrable thickets.

Flowers April; ripens its fruit in June. *High bush-blackberry.*

2. CUNEIFOLIUS. Pursh.

R. caule, petiolis pedunculisque pubescentibus; caule erecto, subangulato; foliis ternatis; foliolis ovali-lanceolatis, acutis, basi cuneatis, dentatis, plicatis, subtus tomentosis; racemis laxis; pedicellis unifloris. E.

Stem, petioles and peduncles pubescent; stem erect, slightly angled; leaves ternate; leaflets oval lanceolate, acute, cuneate at base, dentate, plicate, tomentose underneath; racemes loose; pedicels 1 flowered.

Pursh, 1. p. 347.
R. parvifolius, Walt. p. 149.

Stem about 2 feet high, erect, slightly angled, armed with subulate, recurved prickles, bearing a few branches. *Leaves* rarely quinate, plicate, coarsely and doubly serrate, hairy on the upper surface, tomentose and glaucous underneath, tapering towards the base, then terminating abruptly. *Petioles* prickly, somewhat tomentose. *Racemes* simple at the end of the branches, resembling corymbs from the length of the inferior peduncles. Segments of the *calyx* lanceolate, acuminate, 3 nerved, tomentose. *Petals* oval, thrice as long as the calyx, white, tinged with rose-colour. *Fruit* ovate, juicy, eatable.

The fruit in this species is by no means dry, as mentioned by Pursh. It is perhaps superior in flavour and size to the preceding.

Grows in dry soils.

Flowers April. Ripens its fruit in June.

3. OCCIDENTALIS.

R. ramis petiolisque glaucis aculeatisque; fo-

Branches and petioles glaucous and prickly;

liis ternatis, ovalibus, acuminatis, sublobatis, duplicato-serratis, subtus cano-tomentosis; petiolis teretibus; racemis terminalibus.	leaves ternate, oval, acuminate, somewhat lobed, doubly serrate, underneath hoary and tomentose; petioles terete; racemes terminal.

Sp pl. 2 p. 1082. Walt. p. 149? Mich 1. p. 297. Pursh. 1. p. 347.

Stem terete, conspicuous for its fine glaucous hue, even in a dried state. *Leaves* all ternate; the lateral leaves often furnished with a notch or lobe. Prickles on the peduncles very numerous and hooked. *Petals* small, white, commonly emarginate. *Fruit* black, sometimes red, sweet, but not highly flavoured. *Seeds* wrinkled. (Smith, in Rees' Cyclop.)

Grows in rocky soils, from Canada to Carolina.

Flowers

Virginian or wild Raspberry.

4 TRIVIALIS Mich.

R. sarmentoso-procumbens, hispidus aculeatusque; foliis ternatis quinatisque, ovalibus, acutis, inæqualiter dentatis; pedicellis solitariis, elongatis.	Procumbent, trailing; hispid and prickly; leaves ternate and quinate, oval, acute, unequally dentate; pedicels solitary, long.

Mich. 1 p. 296. Pursh, 1. p. 347.
R. hispidus Walt. p 149.

Stem prostrate, branching, long, slender, terete, very hispid and armed with recurved prickles. *Leaves* somewhat glabrous, pubescent and hairy along the veins, when old sometimes acuminate. *Stipules* at the base of the petioles, subulate, hairy, serrulate. *Flowers* solitary, terminal, on small axillary branches. Segments of the *calyx* oval, with a short acumination. *Petals* large, nearly round, white. *Berries* large, black, well flavored.

This plant appears to me very distinct from the R. trivialis of the Northern States. I have retained the name, as Michaux certainly meant to describe our southern species

Grows every where excepting in inundated lands.

Flowers March—April. Ripens it fruit in May.

Low Bush-Blackberry Dewberry.

5. FLAGELLARIS.

R. sarmentoso-procumbens; caule tereti petiolisque aculeatis; foliis	Procumbent, trailing stem terete, and, with the petioles, prickly; leaves

ternatis, glabris, inæqualiter serratis ; corymbis terminalibus, laxis, pubescentibus, paucifloris. Smith, in Rees' Cyclop.	ternate, glabrous, unequally serrate ; corymbs terminal, loose, pubescent, few flowcred.

Willd. enum. 549. Pursh 1 p. 347.

Stem terete, rather prickly than hispid. *Prickles* recurved, those on the petioles few and widely scattered. *Leaves* smaller than those of R. trivialis, smooth and equal at the base. Smith. Pursh.

Grows in fields and sandy woods, Virginia to Carolina. Pursh.

Flowers.

6. ODORATUS.

R. inermis, hispidus. erectus ; foliis simplicibus, acutis 3—5 lobatis ; corymbis terminalibus, divaricatis, viscidis ; calycibus appendiculatis.	Unarmed, hispid, erect ; leaves simple, acutely 3—5 lobed ; corymbs terminal, divaricate, viscid ; calyx appendiculate.

Sp. pl. 2. p. 1085. Mich. 1. p. 297. Pursh, 1. p. 348.

Stem biennial, 3—4 feet high, branching, very hispid, brown. *Leaves* large, serrate, less hairy than the stem, with the lobes acuminate. *Peduncles* and *calyx* viscid and fragrant. Segments of the *calyx* oval or lanceolate, terminating with a long, linear, leafy point. *Petals* large, nearly round, bright purple or crimson, very ornamental.

This species differs from the rest in habit and appearance.

Grows in the mountains, often on the highest summits.

Flowers June—July.

7. OBOVATUS ? Obovalis. Mich.

R. subherbaceus, hispidus ; foliis ternatis, obovatis, serratis ; stipulis setaceis ; racemis subcorymbosis, paucifloris ; pedicellis elongatis.	Somewhat herbaceous, hispid ; leaves ternate, obovate, serrate ; stipules setaceous ; racemes corymbose, few flowered pedicels long.

Mich. 1. p. 298. Pursh. 1. p. 349.

Stem rather shrubby than herbaceous, hispid with rigid hairs. *Bracteas* ovate. *Berries* with only a few large grains, black and sweet.

Grows in swamps on the highest mountains.

Flowers May—July.

DALIBARDA.

Calyx 5-fidus. *Petala* 5. *Styli* 5---8, longi, decidui. *Bacca* sicca.	*Calyx* 5 cleft. *Petals* 5. *Styles* 5--8, long, deciduous. *Berry* dry.

1. LOBATA. Bald.

D. pilosa; foliis subrotundis, cordatis, lobatis, crenatis, ciliatis; caule sub-nudo; pedunculis multifloris. B.	Hairy; leaves nearly round, cordate, lobed, crenate, ciliate; stem somewhat naked; peduncles many flowered.

Root fibrous, perennial. *Stem* erect, not exceeding five inches in height, supporting a few small, entire, lanceolate leaves. *Peduncles* generally many flowered, erect, umbelliform, with leafy involucrums. *Flowers* yellow. The leaves slightly but uniformly three lobed, and the whole plant more or less cloathed with a coarse pubescence. Bald.

Grows on the hills on each side of Flint River, Georgia, near the Creek Agency.

Flowers April—May.

2. FRAGARIOIDES. Mich.

D. foliis ternatis; foliolis cuneatis, crenato-lobatis; pedunculis multifloris.	Leaves ternate; leaflets cuneate, crenate and lobed; peduncles many flowered.

Mich. 1. p. 300, t. 28. Pursh. 1. p. 350.

Root perennial. *Stem* creeping. *Leaves* arising from the crown of the root. Common *petiole* 2—4 inches long; leaflets nearly sitting, cuneate at base, rounded at the summit, slightly lobed The whole plant hairy. Common *peduncle* 4—6 inches high, 3—6 flowered, bearing small lanceolate leaves at each division. Segments of the *calyx* expanding. *Filaments* persistent. *Petals* yellow.

Grows in the mountains of Carolina and Georgia.

Flowers May—June. Pursh.

GEUM. GEN. PL. 867.

Calyx 10-fidus. *Petala* 5. *Semina* aristata : arista plerumque geniculata.	*Calyx* 10 cleft. *Petals* 5. *Seed* awned, the awn frequently geniculate.

1. ALBUM.

G. pubescens ; foliis radicalibus pinnatis, caulinis ternatis, summis simplicibus, trifidis ; stipulis inferioribus incisis ; floribus erectis ; petalis longitudine calycis ; aristis uncinatis, nudis, apice pilosis. Willd. enum. 556.	Pubescent : radical leaves pinnate, stem leaves ternate, the upper ones simple, 3 cleft ; the lower stipules notched ; flowers erect ; petals as long as the calyx ; awns hooked, naked, hairy at the summit.

Pursh, 1. p. 351.

Root perennial. *Stem* herbaceous, with branches generally expanding. *Peduncles* axillary or terminal, few flowered. *Petals* white.

Grows along the margins of rivers near the mountains.

Flowers.

2. VIRGINIANUM.

G. pubescens ; foliis radicalibus caulinisque infimis ternatis, superioribus lanceolatis ; stipulis ovatis, subintegris ; floribus erectis ; petalis calyce brevioribus ; aristis uncinatis, nudis, apice pilosis, tortuosis. Pursh, 1. p. 301.	Pubescent ; radical and lower stem leaves ternate, the upper lanceolate ; stipules ovate, nearly entire ; flowers erect ; petals shorter than the calyx ; awns hooked, naked, at the summit hairy and twisted.

Sp. pl. 2. p. 1113. Mich. 1 p. 301. Nutt. 1. p. 309.
G. Carolinianum, Walt. p. 150 ?

Lower *leaves* sometimes quinate. *Stipules* small, frequently notched. *Flowers* small, white.

Grows in shady woods.

Flowers

3. **RADIATUM:** Mich.

G. hirsutissimum; foliis radicalibus pinnatis, impari amplissimo reniformi, radiati-nervoso, dentato; caulinis amplexicaulibus, inciso--laceris; aristis glabris, apice simplicibus. Mich. 1. p. 300.	Very hirsute; radical leaves pinnate, the terminal one large, reniform, with radiating nerves, dentate; the stem leaves amplexicaule, notched and lacerate; awns glabrous, simple at the summit.

Pursh, 1. p. 352. Nutt. 1. p. 309.

A handsome plant. *Stem* simple, erect. Radical *leaves* pinnate, the leaflets few and small; stem leaves simple. *Petals* cuneate, obcordate, yellow, with the base fulvous.

Grows on the highest mountains of Carolina.

Flowers

POTENTILLA. GEN. PL. 866.

Calyx 10 fidus. *Petala* 5. *Semina* subrotunda, receptaculo parum exsucco affixa.	*Calyx* 10 cleft. *Petals* 5. *Seeds* nearly round, attached to a dry receptacle.

1. **NORWEGICA.**

P. pilosus; caule erecto, dichotomo; foliis ternatis, lanceolatis, inciso-dentatis; pedicellis brevibus, solitariis, axillaribus; petalis calycem subæquantibus, E-	Hairy; stem erect, dichotomous; leaves ternate, lanceolate, deeply toothed; pedicels short, solitary, axillary; petals as long as the calyx.

Sp. pl. 2. p. 1109. Mich 1. p. 302. Pursh, 1. p. 354.

Annual. *Stem* erect, 1—2 feet high, branching, very hairy. *Leaves* trifoliate, the upper ones simple. *Leaflets* sessile, entire near the base. *Stipules* obliquely lanceolate, slightly toothed. *Flowers* lateral at the divisions of the stem. *Peduncles* 4—5 lines long. Tube of the *calyx* campanulate; segments equal, acute, entire. *Petals* obovate, inserted into the tube of the calyx, yellow. *Stamens* about 15, much shorter than the calyx. *Germs* superior, numerous, collected into a small head. *Styles* short, slightly winged. *Stigmas* obtuse.

Seeds somewhat crescent-shaped, turgid, glabrous, beautifully embossed.

This plant agrees exactly with specimens of the P. Norwegica from Pennsylvania, and Massachusetts. Can the real P. Norwegica have wandered to the sea coast of Carolina?

Grows on Charleston neck, 3 or 4 miles from this city.

Flowers June—July.

2. CANADENSIS.

P. procumbens, sericea; foliis quinatis, cuneato-obovatis, inciso-dentatis; pedunculis solitariis, elongatis; petalis orbiculatis, integris, longitudine calycis

Procumbent, silky; leaves quinate, cuneate, obovate, deeply toothed; peduncles solitary, long; petals round, entire, as long as the calyx.

Sp. pl 1106 Walt. p. 150 Mich. 1. p. 303. Pursh, 1. p. 354.

Root perennial, creeping. *Stem* procumbent, with a few branches. *Leaves* on long petioles; *leaflets* sessile. *Stipules* ovate, acutely toothed. Segments of the *calyx* linear-lanceolate. *Petals* bright yellow.

Grows in shaded, rich soils. Not uncommon even along the sea coast of Carolina and Georgia.

Flowers March—April.

3. SIMPLEX. Mich.

P. erecta, hirsuta; foliis quinatis, oblongo-ovalibus, grosse serratis; pedunculis axillaribus, solitariis, elongatis; petalis rotundato-obcordatis, calyce longioribus.

Erect, hirsute; leaves quinate, oblong oval, with large serratures; peduncles axillary, solitary, long; petals nearly round obcordate, longer than the calyx.

Mich. 1 p. 303. Pursh, 1. p. 354.

Perennial. *Stem* simple, angled, rough. The upper *leaves* sessile. *Peduncles* slender, 1 flowered. Segments of the *calyx* linear lanceolate. *Petals* yellow.

Grows in dry woods and meadows; Pursh. From Canada to Carolina.

Flowers May—August.

FRAGARIA. GEN PL. 865.

Calyx 10-fidus. *Petala* 5. Receptaculum *seminum* ovatum, baccatum, deciduum.	*Calyx* 10 cleft. *Petals* 5. Receptacles of the *seed* ovate, berried, deciduous.

1. VIRGINIANA.

F. calyce fructus patente; pubescentia petiolorum erecta, pedunculorum adpressa; foliis supra glabriusculis. Sp. pl. 2. p. 1091.	Calyx of the fruit expanding; pubescence of the petioles erect, of the peduncles appressed; leaves glabrous on the upper surface.

Pursh, 1. p. 356.
Fragaria vesca ? Walt p. 150.

The genus Fragaria is very extensively diffused over the nortbern hemisphere, and in the southern, one species at least has been found in Chili. Yet every where the resemblance is so intimate and entire, that it is only in the disposition of the calyx and pubescence that characters have been found to discriminate the species For want of attention to these characters the next species requires revision, and is perhaps uncertain:

Grows in woods and meadows in the upper districts of Georgia and Carolina. Very rare in the low country.

Flowers February—April. *Wild Strawberry.*

2 CANADENSIS. Mich.

F. major; foliolis amplo-ovalibus, lateralibus manifeste petiolatis; pedicellis longis, recurvo-pendulis; receptaculis seminum globosis, favoso-scrobiculatis, villosis. Mich. 1. p. 299.	Large; leaflets wide, oval, the lateral ones distinctly petiolate; pedicels long, recurved, pendulous; receptacles of the seed globose, honeycombed, villous.

Pursb, 1. p. 357.

Grows in the mountains and woods from Canada to Florida. Mich.
Flowers April—May.

CALYCANTHUS. GEN. PL. 870.

Calyx urceolatus, superne multifidus, squarrosus, laciniis petaloideis coloratis. *Corolla* 0. *Styli* plurimi. *Semina* plurima, nuda, lævia, intra calycem ventricosum, succulentum.

Calyx urceolate, many cleft above, squarrose, with the segments coloured, resembling petals. *Corolla* 0. *Styles* many. *Seeds* numerous, naked, smooth, contained in a ventricose succulent calyx.

1. **FLORIDUS.**

C. laciniis calycis lanceolatis; foliis lato-ovalibus, acutis, subtus tomentosis; ramis patentibus. Willd. enum. 550.

Segments of the calyx lanceolate; leaves wide, oval, acute, tomentose underneath; branches expanding.

Sp. pl. 2. p. 1119. Mich. 1. p. 305. Pursh. 1. p. 357. Nutt. 1. p. 312.
C. sterilis. Walt. 1. p. 151.

A shrub 3—7 feet high, erect, virgate, stoloniferous, the young branches pubescent. *Leaves* opposite, sometimes acuminate, entire, on short petioles. *Flowers* solitary, axillary and terminal, on short branches. The petaloid segments of the *calyx* disposed nearly in 2 series. *Filaments* minutely pubescent, the interior generally without anthers. *Capsule* turbinate, as large as a small pear, becoming dry with the seeds loose, but never opening. *Seeds* oval, large.

Grows in fertile soils, along rivulets. Not rare in the upper districts of Carolina and Georgia; very rare in the lower.

Flowers April. *Sweet-scented Shrub.*

2. **INODORUS.** E.

C. laciniis calycis lineari-lanceolatis, pubescentibus; foliis lanceolatis, supra scaberrimis nitentibusque, subtus lævibus; ramis patentibus. E.

Segments of the calyx linear lanceolate, pubescent; leaves lanceolate, scabrous and shining on the upper, smooth on the lower surface; branches expanding.

A shrub, 4—6 feet high, with branches virgate, glabrous, though bearing when young a few scattered hairs. *Leaves* entire, sometimes

slightly acuminate, with the veins conspicuous, glistening as if viscid on the upper surface, smooth underneath excepting the veins, which are pubescent. *Flowers* larger than those of the preceding species, terminal and axillary; the axillary flowers generally on short branches. Petaloid segments of the *calyx* thick, dark purple, with the reflected summits white, in series of which the exterior and interior are smaller than the intermediate segments. *Filaments* numerous, inserted on the calyx in several series. *Anthers* attached to the back of the exterior filaments, none on the interior. *Styles* shorter than the stamens. *Stigmas* somewhat capitate.

I propose this species with hesitation, yet it appears to me sufficiently distinct. In the form and size of the leaves it agrees with the C. Floridus, but differs from that species in their surface and by its inodorous flowers. Its leaves are smaller and less acuminate than those of C. lævigatus.

Grows in the low country of Georgia. Rare. Occurs occasionally in gardens.

Flowers March—April.

3. LÆVIGATUS.

C. laciniis calycis lanceolatis; foliis ovalibus, sensim acuminatis, subrugosis utrinque glabris viridibusque; ramis stricte erectis.	Segments of the calyx lanceolate; leaves oval, gradually acuminate; somewhat rugose, glabrous and green on both sides; branches straight erect.

Pursh, 1. p. 358.
C. ferax Mich. 1. p. 305.

Stem 4—6 feet high. *Leaves* large, oval and lanceolate, acuminate, thin, and scarcely at all scabrous on either surface.

Flowers in May.

4. GLAUCUS.

C. laciniis calycis lanceolatis; foliis lanceolatis, longe acuminatis, subtus glaucis; ramis patentibus.	Segments of the calyx lanceolate; leaves lanceolate, with a long acumination, glaucous underneath; branches expanding.

Pursh, 1. p. 357.
Nutall, var. b. oblongifolius, 1. p· 312.
C. fertilis? Walt. 1. p. 151.

Shrub 6—8 feet high, glabrous. *Leaves* larger than in any other species, with very long acuminations, smooth underneath, with a few hairs sprinkled along the veins. *Flowers* large.

Grows in the upper districts of Carolina.

Flowers May—June.

END OF VOL. I.

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ADDENDA.

A few species are subjoined, which have occurred to me since the publication of the early numbers of this work.

LINDERNIA REFRACTA. E

L. caule gracili, erecto, ramoso, glabro; foliis radicalibus, spathulato ovalibus, superioribus subulatis; floribus solitariis, axillaribus terminalibusque; pedunculis post flores centiam refractis.

Stem slender, erect, branching, glabrous; radical leaves spathulate-oval, upper leaves subulate; flowers solitary, axillary, and terminal; peduncles after flowering refracted.

Root perennial. *Stem* erect, angled, slender, 8—12 inches high, branching. Radical *leaves*, spathulate, oval, and like the whole plant glabrous. Lower *stem* leaves small, lanceolate, sessile, upper leaves subulate. *Flowers* solitary, axillary and terminal, on peduncles about an inch long. *Calyx* very small divided to the base. *Corolla* much longer than the calyx, very pale, blue, the upperlip nearly as long as the lower. *Stamens* shorter than the corolla. *Style* about as long as the corolla. *Stigma* bilamellate. *Peduncles* after flowering refracted.

Grows around the margins of ponds in Barnwell district, South Carolina; in Barke county, and near Milledgeville, Georgia.

Flowers June—August.

FUIRENA HISPIDA E.

F. foliis prælongis, vaginisque hispidissimis; caule superne hispido, capitulis pluribus (5—8) aggregatis, valvulis corollinis ovatis, mucronatis.

Leaves long, and with the sheath very hispid; stem hispid above; heads many (5—8) clustered; valves of the corolla ovate, mucronate.

Stem 1—2 feet high, erect and decumbent, smooth along the lower joints. *Leaves* narrrow, tapering, 4 - 8 inches long, many nerved, hispid, particularly on the lower surface. *Scales* of the amentum, oval, the outer ones hispid, the inner ones finely pubescent, awn, long, expanding. *Stamens* 3 scarcely longer than the corolla. *Styles* twice as long as stamens. *Stigmas* 3.

Grows in great abundance around ponds in the middle districts of Georgia and Carolina, first sent to me from Milledgeville by Dr. Boykin.

Flowers July—October.

Andropogon Secundus. E.

A. panicula sub-ramosa, erecta, secunda ; pedunculis trifloris, floribus masculis subulatis, villosis, hermaphrodito sessili, valva altera villosa.	Panicle sparingly branched, erect secund ; peduncles 3 flowered, male florets subulate, villous ; the hermaphrodite sessile with one valve very villous.

Perennial. *Stem* erect 3—5 feet high. *Leaves* long, narrow, scabrous, particularly on the under surface. *Sheaths* hairy, sometimes villous *Panicle* erect 12—14 inches long, composed of small branches, that in their natural state always turn to one side. *Flowers* somewhat crowded on the branches. *Pedicels* very slender, neutral florets nearly as long as the fertile, generally appressed to one valve of the calyx, which is comparatively naked, the other valve very hairy. *Corolla* shorter than the calyx. *Anthers* about as long as the corolla, yellow, opening at the summit. *Awn* four times as long as the calyx, contorted.

This species, which though nearly allied to the A. Nutans, yet appears to me very distinct, grows in great abundance on the high ridges between the Flint and Chatahoochie rivers in Georgia.

Flowers in September—October.

URALEPSIS. Nut.

Calyx bivalvis, 2—3 floris, corolla brevior. *Corolla* bivalvis, valva exteriore longiore tricuspidata, nervis villosis. *Semina* arillata.	*Calyx* 2 valved, 2—3 flowered, shorter than the corolla. *Corolla* 2 valved, the exterior valve longer, 3 pointed. *Nerves* villous. *Seeds* arillate.

Cornuta. E.

U caule, foliisque angustissimis pilosis ; panicula gracili ; cuspide intermedia corollam superante, demum recurva. E	Stem and leaves narrow, hairy ; panicle slender ; intermediate awn of the corolla longer than the valve, finally recurved.

Stem about 2 feet high and like all the other species of this genus, dry and harsh. *Leaves* scarcely a line in breadth, the lower ones 4—6 inches long, the upper very short. *Sheath* open, shorter than the internodes, sometimes very hairy. *Panicle* composed of a few small, one or 2 flowered branches. *Calyx* nearly equal, very acute, glabrous, purple. *Corolla* longer than the calyx, exterior valve purple, villous along the margins and back, deeply cloven. The midrib about double the length of the corolla and apparently very slightly connected with it; erect when young, recurved and frequently persistent when old.

Since the publication of the first number of this work, the Aira Purpurea has been proposed by Mr. Nuttall as the type of this new genus, to which he has added a second species from Jersey and Delaware (U. Aristulata.) This will constitute a third species of a genus which though nearly allied to Trisetum is very distinct, and of which the species yet known are very conformable in habit.

LUDWIGIA NATANS. E.

L. natans, repensque, oppositis, spathulato lanceolatis; floribus axillaribus, sessilibus; petalis calycem æquantibus. E.	Swimming and creeping; leaves opposite, spathulate-lanceolate; flowers axillary, sessile; petals as long as the calyx.

The whole plant glabrous, creeping along the borders or swimming in the waters of shallow streams, somewhat succulent. *Leaves* entire, with an attenuated base nearly half an inch long. *Flowers* solitary, axillary, sessile. Leaves of the *calyx* acuminate. *Petals* yellow, as long as the calyx. *Stamens* about as long as the petals. *Capsule* finely attenuated at base.

This plant has a striking affininity to the L. palustris of this work, (Isnardia palustris auct:) it appears to differ only by its greater size, which may be owing to situation; by the presence of petals, and by the capsules, which taper more at the base.

Grows in small running streams, in Barnwell district, near the Court house.

Flowers during the summer.

RUPPIA. GEN. pl. 235.

Calyx 0. *Corolla* 0. *Semina* 4, pedicellata.	*Calyx* 0 *Corolla* 0. *Seed* 4, pedicellate.

MARITIMA.

Sp. pl. 1. p. 717. Lamarck illust. pl. 90.

Root probably perennial. *Stem* long floating, glabrous. *Leaves* alternate filiform, embracing the stem at base with an inflated sheath. *Peduncles* axillary, somewhat spiral, long, bearing one or more flowers near its summit. *Calyx?* two small deciduous leaves at the base of each floret. *Anthers* four, sessile. *Germs* four, at first sessile. *Style* none. *Stigma* obtuse. *Fruit* a one seeded nut? ovate, slightly bent at the summit on *pedicels* three or four times its own length.

Found by Dr. Baldwin near St. Mary's, Georgia and in Florida.

Flowers May—June, and probably through the whole summer.

ERYNGIUM PLUKENETII. E.

E. foliis longis, lineari-lanceolatis, serratis, involucro 8-phyllo, capitulis longiore, foliolis dissectis; paleis tricuspidatis. E.	Leaves long, linear lanceolate, serrate; involucrum 8 leaved, longer than the head. with the leaflets dissected; chaff 3 awned.

Icon. Pluken. Amalt. pl. 396. f. 3.

Root tuberous, præmorse. *Stem* 2 feet high, fistulous, glabrous, branching near the summit Radical *leaves* 8- 14 inches long, scarcely one half an inch wide, nervose. glabrous, the serratures becoming sometimes indistinct with age. *Leaves* at the division of the branches much dissected, of the involucrum deeply notched near the base, serrated towards the summit. Leaves of the *calyx* mucronate. *Corolla* pale blue.

This species of Eryngium which was accurately figured by Plukenet, has latterly been forgotten, and the name of Plukenet. E. Virginianum applied to another species. Michaux was however correct when he called the present E Virginianum. E. aquaticum, considering it as distinct from the plant of Plukenet. The roots of this plant were sent to me accidently among some other roots taken up in St. Johns Berkley; and flowered in my garden for one or two years.

Flowers May—June.

MYOSURUS.

Calyx 5-phyllus, deciduus, basi porrectus. *Petala* 5, ungue filiformi tubuloso. *Semina* plurima, receptaculo longissimo, spicatim disposita.	*Calyx* 5 leaved, deciduous, prolonged at base. *Petals* 5, with their filiform claws tubular. *Seeds* numerous, arranged in a spike on a very long receptacle.

MINIMUS.

Sp. pl. 1. p. 1568.

Root annual. *Stem* 0. *Leaves* linear, entire, about 2 inches long. *Scape* as long as the leaves, erect, 1 flowered. Leaves of the *calyx* narrow, reflected? *Corolla* shorter than the calyx. *Stamens* 5—8, as long as the calyx. *Germs* numerous, on a subulate receptacle, which after the decay of the corolla extends and becomes finally nearly two inches long. *Seeds* (capsules? cariopsides, Decandolle) sessile closely appressed rhomboidal, acuminate at the summit

I can perceive no difference between this plant and the European species.

Found near Augusta, Georgia, by Dr. Leavenworth.

Flowers in the spring.

POLYGONUM FIMBRIATUM. E.

P. spicis paniculatis; floribus solitariis, fimbriatis; ochreis truncatis, ciliatis; foliis linearibus, utrinque acutis. E	. Spikes paniculate; flowers solitary, fimbriate; stipules truncate, fringed; leaves linear, acute at each end

Perennial? *Stem* about 2 feet high, terete, glabrous, branching. *Stipules* truncate, glabrous, fringed. The small branches, from the long fringes of the stipules, appear hairy. *Leaves* alternate, linear, acute at each end, sessile, nervose, glabrous. *Flowers* in crowded spikes. *Spikes* paniculate Flowers solitary at each joint, enveloped at base with a bracteal sheath, which is oblique, and terminated at the summit with a long awn. *Corolla* white, the segments sometimes tinged with rose colour near the centre, and finely fimbriate. *Stamens* 8, as long as the corolla. *Styles* 3. *Seeds* 3 angled, slightly acuminate at the summit.

This species should follow the P. polygamum, to which it is closely allied.

Grows on the poorest pine barrens, on the high ridges between the Flint and Chatahoochie river, along what is termed the Federal road.

Flowers July—October.

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OF THE GENERA AND SPECIES

CONTAINED IN THIS VOLUME.

The Roman *characters indicate the Genera and Species which are retained ; the* Italic *are used for synonymes.*

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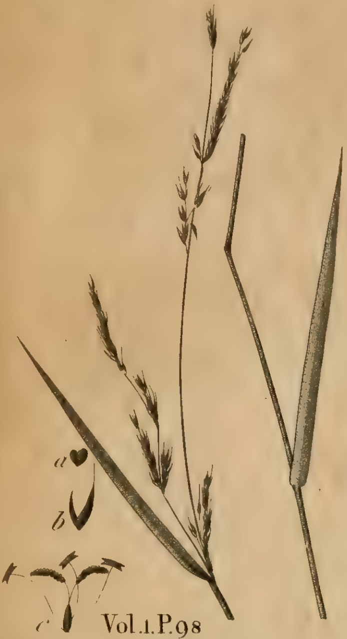

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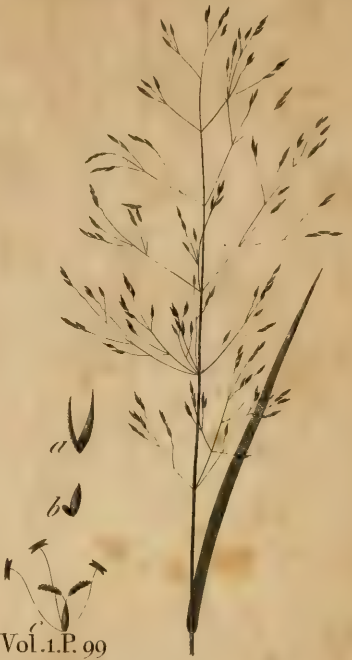

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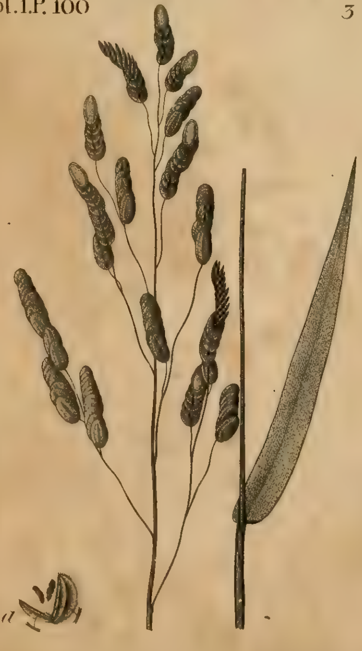

Leersia Lenticularis

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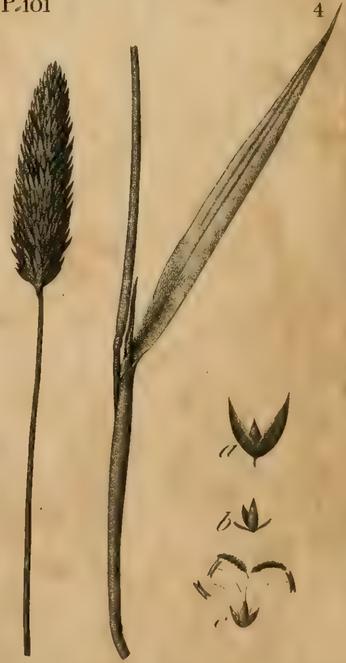
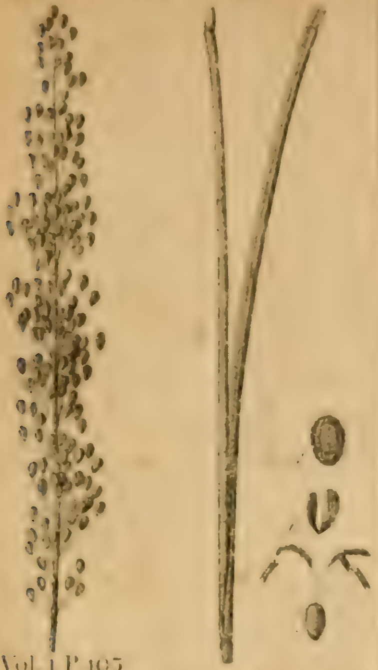


Phalaris Americana

Pl. VI

No 1

Aulaxanthus Rufus



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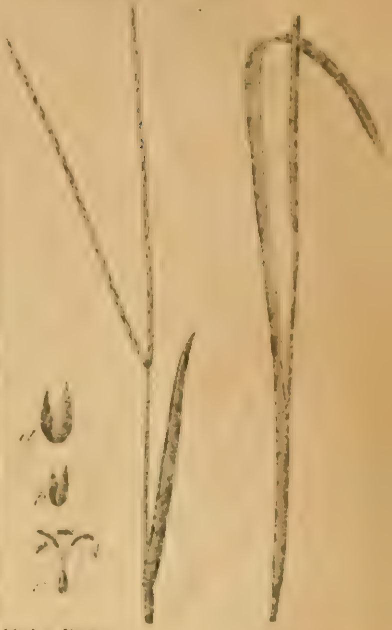
Milium Paspalodes



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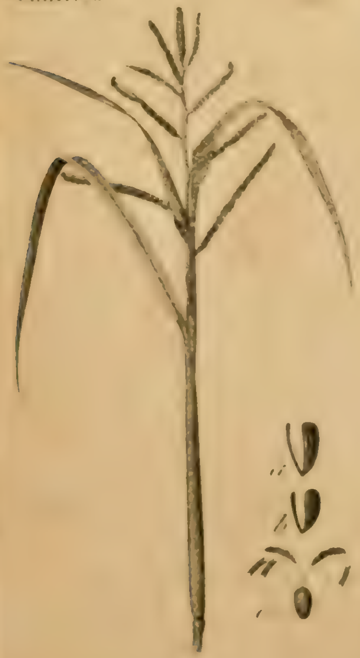

Paspalum Purpurascens

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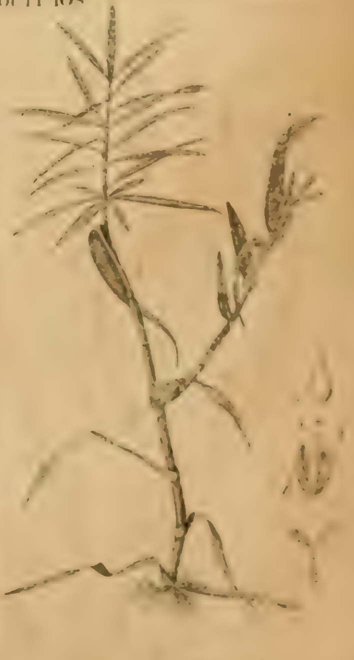

Ceresia Fl[illegible]